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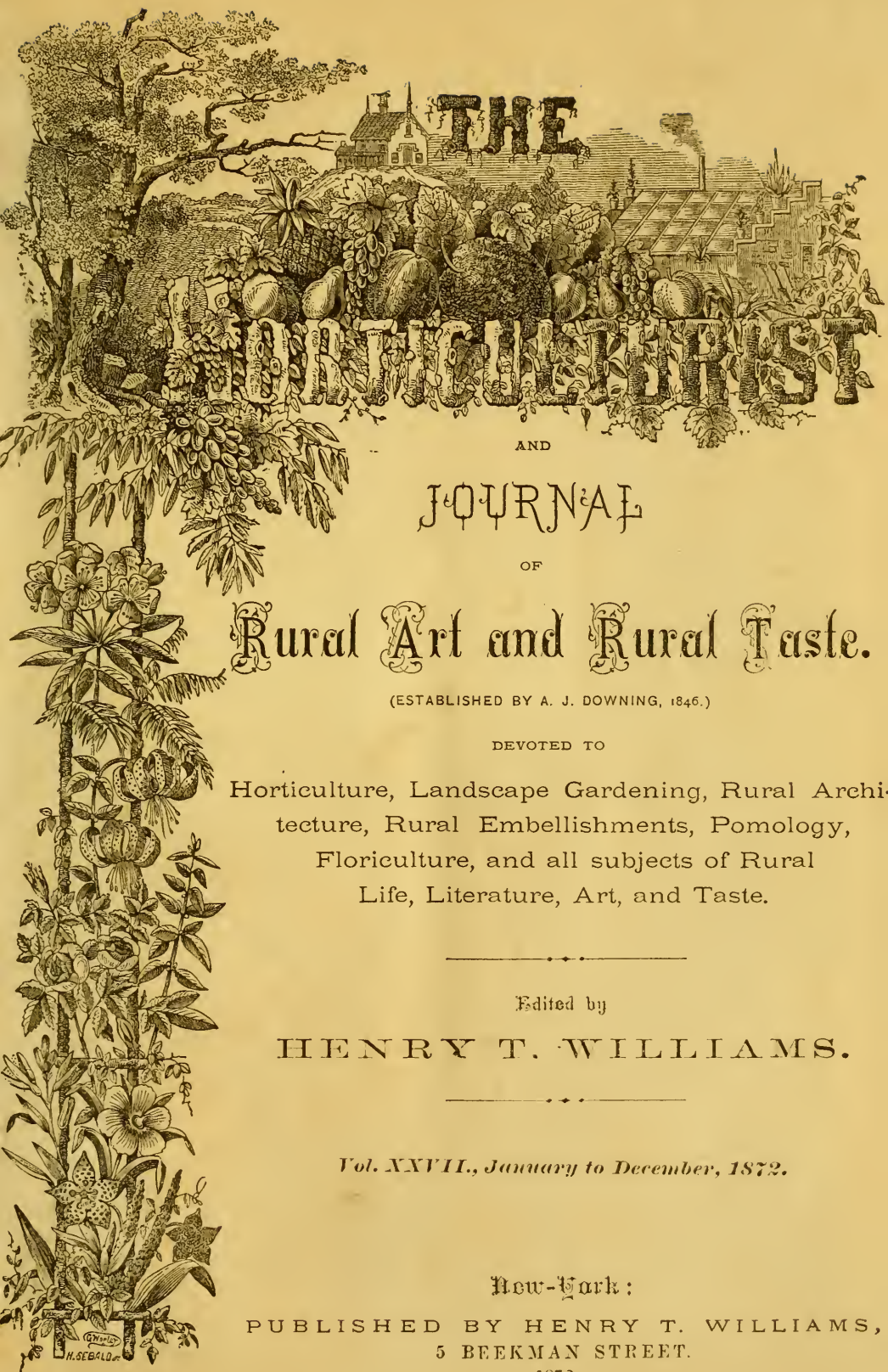
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THE HORTICULTURIST

AND

JOURNAL

OF

Rural Art and Rural Taste.

(ESTABLISHED BY A. J. DOWNING, 1846.)

DEVOTED TO

Horticulture, Landscape Gardening, Rural Architecture, Rural Embellishments, Pomology, Floriculture, and all subjects of Rural Life, Literature, Art, and Taste.

Edited by

HENRY T. WILLIAMS.

Vol. XXVII., January to December, 1872.

New-York :

PUBLISHED BY HENRY T. WILLIAMS,
5 BEEKMAN STREET.

1872.

H 79 v. 27

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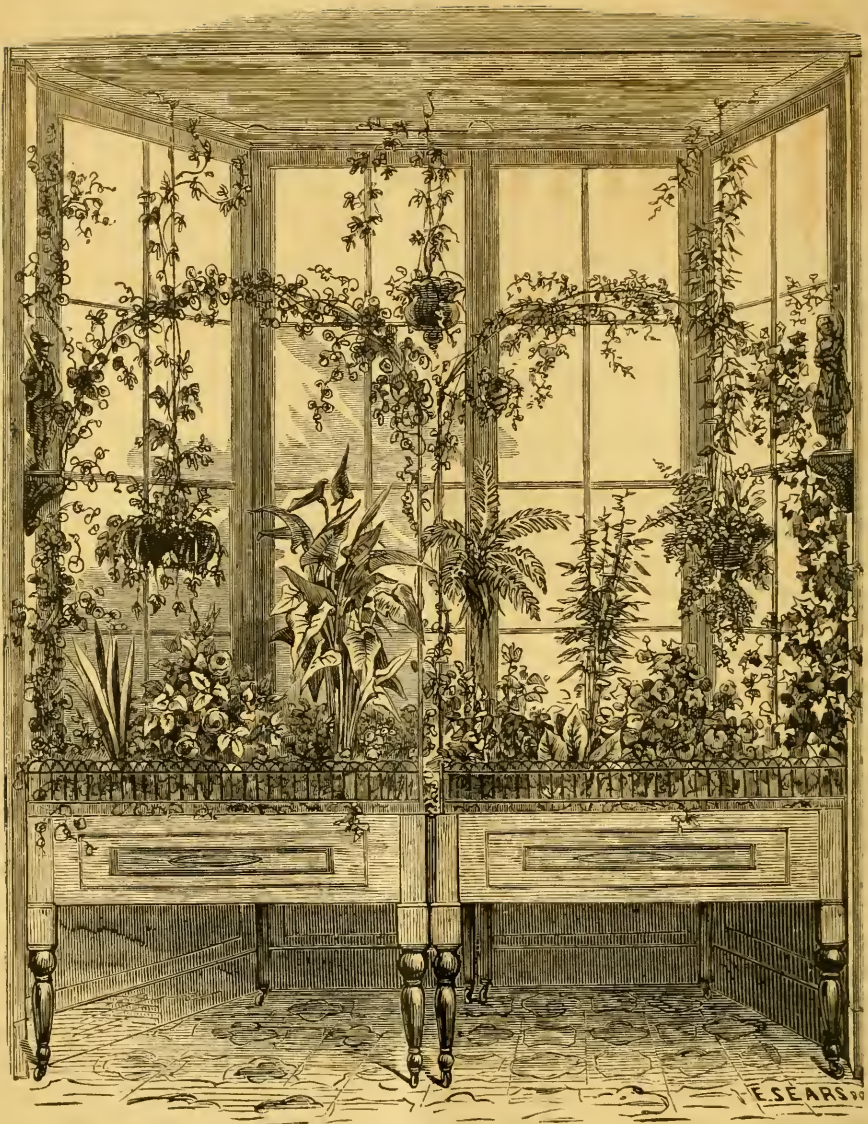
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Design for a Window Garden.



VOL. 27.

JANUARY, 1872.

NO. 307.

Success in Window Gardening.

THE very ring of the name of Window Gardening is pleasant, and suggests hosts of beautiful parlor gardens, with the ivy twining around the edges of the window sash, or on a stand in front of the pane, is a pot of geraniums, and over all hangs a basket filled with drooping plants. We are glad to see so encouraging a growth of taste for plants, and esteem it among the most useful of home pleasures ; nothing can exceed a genuine love for flowers.

There are a few items which every cultivator will do well to bear in mind. Much that is essential to success in the indoor culture of plants must be learned from experience, and can be learned in no other way. One great mistake is in a wrong choice of *the soil* ; many often suppose that any soil will do, hence, especially in cities and villages, they are often apt to choose soil from the back yard, unfit for its needs, being either too dry, devoid of fertilizing material, or already exhausted by continual draughts from the numerous roots of the plants around. The best, and in fact only soil, should be a compost of loam, one part ; sand, one part ; leaf mould, one part ; and well decayed cow manure, a fourth part. The use of the sand is to assist drainage ; the proportions of the manure may be varied according to the needs of the plant. Ivies, for instance, need a rich soil, but bulbs generally need little or none, pure sand being much the best for the last, which should never come in contact with manure. The sand should be well mixed with the compost. In the bottom of every vessel, box or basket, there should be laid a few bits of broken crockery for the more perfect flow and drainage of surplus water. Most vessels have holes in the bottom also, but in hanging baskets this cannot be expected, so the crockery must take its place.

In selecting your plants, you had best purchase from a florist until you have become more familiar with the *modus operandi* of propagation. Select plants of good short-jointed, stocky habits, with leaves of healthy look ; large specimens are not desirable ; it is better to get those plants which are well started, and are growing

finely, and then let them develop gradually. There is a very remarkable difference among florists in the raising of plants. Many seem to grow only for the sake of saying they have so big a quantity, while regardless of quality; others pay more attention to the need of maintaining a good reputation, hence send out nothing but well grown specimens, until their business becomes too large for their popularity, and then they too grow slack, and are glad to send off anything. Usually *beginners*, i. e., young florists, anxious to win a good name, can be found most anxious to please, and careful to send only good plants; but many of the old favorite dealers do not yet forget the principles of good quality, which after all are the only safeguards to help a man maintain a good business. When you have got your new plants, be careful of too sudden a change from the old quarters to the new. This hasty transition is very trying to plants; the hot, dry air of the living room, is a severe test upon any plant brought from the cool outer air, or the moist atmosphere of the florist's greenhouse. It would be best that this change should be gradual. Just bring them indoors, and place them in a room without a fire for a short time. If you have a light, dry cellar, this will be a good place, if not liable to frost. Here they need only moderate watering; after a short time they can be transferred to the window; here they must enjoy plenty of light; in mild weather, pull down the upper window and ventilate the air; keep their foliage free from dust and insects; wash them with a sponge, and syringe the plants with a good supply of water once a day. If the water soaks away in the soil rapidly, then it is in good condition. Never water when the soil is already full of moisture; never water at midday, or when the sun is shining.

Avoid very high temperatures, and also guard against low ones; a temperature of sixty to seventy degrees in the day, equable and uniform, is a good medium, but at night it should range from forty to fifty degrees. Beware of the danger of frost. Many housekeepers, in letting their fires go out at night, often forget their plants, and in the morning awake to find a sudden change of weather, frost on the window pane, and their plants tipped also.

The only safe plan is to throw newspapers over the plants between them and the window.

All plants suitable for greenhouses, needing much heat, should be avoided for ordinary parlor culture; only the more simple plants that can be easily managed should be used; a list of them will be given shortly. But such plants as Geraniums, Azaleas, Daphne, Yellow Jessamine, Oxalis, Fuchsias, are always desirable and easily managed.

The design of a Window Garden we give in our frontispiece this month, is one actually in use. The bow window is about six feet wide and three feet deep. A double stand has been made to fill it up, and the boxes inside are lined with zinc, filled with compost, and covered with moss. A wire frame work is placed in front for ornament, and from the center and sides rises an archway of wire whereon are growing some climbing vines. The plants placed in these boxes are Madeira Vine, Maurandias, Mexican Cobœa, Calla Lilies, Roses, Carnations, Fuchsias, Amaranths, Coleus, Begonias.

The hanging vase over the center arch contains a plant of the Coliseum Ivy. On a bracket just at the edge of the window sashes, is a dish of ferns. At the left hand

is a hanging basket filled with moss, and plants of the *Oxalis* and *tradescantia*; another basket at the right contains the Ice plant, as well as the *tradescantia*.

It is hardly necessary to say that the little garden is a constant glory, and probably its cost would not exceed \$25 for plants and all—an amount so moderate that it might be afforded by every one of taste.

The Central Park.

A COMPLETE change has been made in the management of this most celebrated and admired of American parks. All the Ring Commissioners, officers, and employees have been dismissed; a new Board has been elected in the interests of a true and judicious reform, of which Henry G. Stebbins is president. All useless attachés and laborers have been displaced; and best of all, we are glad to note the re-appointment of Messrs. Olmstead, Vaux & Co., as Consulting and Supervising Architects and Landscape Gardeners.

Prof. *Robert Deneckes*, formerly of the King's Gardens, at Berlin Prussia, has been appointed in charge of the Department of Landscape Gardening and Conservatories, a gentleman of rare experience and taste, whose skill will help render the park more than ever a source of satisfaction to those lovers of rural taste who wish to see our beautiful park managed on correct principles and with careful judgment. The reputation and experience of Mr. Olmstead will be a good guarantee to the public that a dignified standard will be maintained in the plans for laying out and improving all the grounds and the construction of new designs of rustic architecture. Mr. Andrew H. Green, Comptroller of the city, is still a member of the Board.

We would suggest to the department, in future plans, to devote some one or more portions to the display of flowers, or plants of ornamental foliage.

Were a good location selected, say of five or ten acres, devoted especially to ornamental gardening, we believe it could be made the most unique object of beauty in the entire park, attracting the greatest crowds, and delighting every one.

Suppose a very fine conservatory were erected, whose architectural characteristics should be very handsome, then display around this fancy flower beds, intermingled with flowering shrubs, plants of ornamental foliage, garden arbors, etc., it would be a feature of rare value.

Very many striking effects could be produced by the use of subtropical plants; indeed it would be quite appropriate to have a "Subtropical Garden" as well as an "Arboretum," where the casual visitor can form some idea of the wealth of foliage of semi-tropical regions south of us.

The taste of our people is advancing so rapidly in its passion for flowers and floral decorations, that we believe the Department of Parks can judiciously allow some moderate space to gratify our citizens who do not often see flower gardening on a grand scale.

Home Gardens.

EDITORIAL GOSSIP.

The Pampas Grass.

MAKE room in your lawns or gardens this coming spring for a tufty little spot of the Pampas Grass. We are glad to see the different varieties of ornamental grasses suitable for ordinary culture becoming more popular, for, to our taste, a column of gracefully bending grasses, on either side of a path, or in the center of a grass plat, has a much richer and more natural appearance than a vase of any pattern, however rich. The *Erianthus Ravennæ* is a great acquisition, and yet we must not forget our old favorite the *Gynerium Argenteum*. We might liken it, in its habit of growth, to a huge tuft of orchard grass, only larger and more majestic. Cast your eye upon it when it waves gently in the passing wind, and you can realize something of its value for decorative purposes. From the root springs up a growth of coarse, sharp leaves, about three to four feet long, which rise up straightly for about half their height, then bend outward in a marked and graceful curve. From the center of this tuft, rise the tall stalks, one from each crown, to the height of about seven feet, their top decorated with sprays or plumes of delicate feathery appearance, having a silvery or glossy hue.

One great argument for their use as lawn decorations, is the fact that these flowers or plumes retain their bloom for a long time. North of lat. 40° the root is tender and will not stand the winter, and must be either protected by a covering of straw or removed and kept in the cellar. The plants can be easily dug up, as the roots are very numerous, and will hold the earth pretty closely together; after digging them up, set them in large tubs and cover with sand; any cellar or outhouse, where the atmosphere is not too dry or too cold, will keep them well, and here the roots will remain dormant.

Year after year the roots will, of course, grow larger, and the spaciousness of their accommodation must be increased.

Beginners will do well to remember that these plants require age before they will develop strong flowering habits. For instance, a young plant will not amount to much until two or three years old, then when full grown, it will toss in the air scores of its silvery plumes, to please every one. The temperature of our summers seems to be very suitable for them, as they are of a semi-tropical character, and natives of the plains of South America. They need a moderate degree of moisture, but after once well transplanted to a permanent place on the lawn, they are of little or no trouble.

Quinces.

Occasionally this subject receives a stirring ventilation in the papers, and with justice, for the "*decline of the quince*" seems to be as marked in the annals of horticulture as the rise of strawberries and other small fruits. Where are the handsome golden apples we used to gather every autumn from the country gardens of twenty or forty years ago?

Good quinces are now so scarce, that a bushel of good, large, sound quinces, without a blemish, will sell for six cents apiece, and even gnarly, half-decayed specimens

will average double the price of apples or peaches. Why does not some one, of a careful turn of mind, forsaking the beaten path of fever for strawberries, cranberries, pears and peaches, study the characteristics of the quince, and learn its needs of soil and climate, and then follow them up by planting a good orchard?

There are only a few essentials worthy of note to be observed. The quince is a very rich grower, *i. e.* needs a soil which is very well fertilized with natural material; then it thrives best in a cool, moist location; it does not demand hardly to be placed in standing water, but must be where its roots can reach water or moisture throughout the growing season. Usually our best living and bearing trees are found in the edges of our gardens, close to the wall, where, with a wide spread of branches close to the ground, they have all the room they need to themselves, and no other crop can extract the nutrition of the soil. But, alas, the cultivator forgets to give them a good annual dressing of manure or wood mould, he takes no pains to clear out the worms from the trunks—and so the row of quinces soon runs down.

We see no reason why an orchard of quinces, as well planted, trained, manured and wormed, might not become as profitable as one of dwarf pears.

Some of the most successful quince trees we ever knew, grew on the banks of a running stream of water, and even the roots were imbedded in grass—hence a moist location is imperative.

Dwarf Apples.

The general opinion is that dwarf apples do not pay. Certainly it is the case the results are not as large as the amateur expected. The strongest growing trees are usually found upon the Doucain stock, but for average gardens the Paradise is much the best. These take up but little room, can be easily trained, either as cordons or on a trellis, and will usually bear every year some very fine specimens of fruit—not a large quantity, however. We have never yet seen on trees of the Doucain stock, a peck of apples, although the tree itself will have a head fully 15 feet in diameter, and ten feet high.

The Daphne Odorata.

What a gem this is for the parlor garden (for at this season of the year the home garden is indoors), and we are glad to see its beauty thus mentioned by a correspondent of the *Country Gentleman*:

“For two months they have been diffusing their fragrance through my apartments, and probably will continue to do so for several weeks more. Receiving almost no care at all, they flourish in spite of neglect; sometimes without water for more than a week, and the thermometer ranging from sixty down to the freezing point; still they maintain their equanimity and bloom on. Slight frost does not materially injure them, neither is sunshine indispensable. My plants, about three feet high, have been without a glance of sun during the blooming season. In fact the common mistake is too much care in their management, especially in regard to heat. The air of a sitting-room is too warm for the health of this plant, if long confined to it. A low temperature is requisite, while at the same time it prolongs the blooming season several weeks.”

Lawns.

The rich, velvety appearance of our lawns comes only from close cutting. We are glad to find that lawn mowers have really become fashionable. And it is considered

now part of a fashionable day's programme to first take a morning "constitutional" in pushing or pulling the lawn mower over the grass in summer. We notice that many beginners do not prepare their surface smoothly enough. It is really an art to lay out a lawn of either large or small extent, with such accuracy and fitness that there shall be no hollow or hillock in the grand sweep of a broad lawn. A heavy roller does most of the business, and smooths down many a rough place, but severe inequalities of surface are removed only by the spade. Keep your lawn well covered every winter with a good top dressing of well rotted manure, and in the spring take your little beetle, or fork or rake, and beat to pieces all the coarse stuff left in sight. The grass thus enriched by the washings of the early rains, will start up early, and long before the time for your trees or shrubs to flower, you have a carpet of green, worth more than all the rest.

Flowering Shrubs.

Of all the plants which add to the charms of a country place, none seems to us more effective than the free use of flowering shrubs. To a great extent they may take the place of either trees or flowers, a happy half-way mean between the two. Do not forget then, friends, in your spring planting, to plant early, for they are early buds of bloom. Do you want a list of the best? Here it is:

Deutzia gracilis.

" *scabra.*

Spiræa Douglassii.

" *prunifolia.*

" *rosea.*

Amygdalus pumila.

Cornus Maculata variegata.

Ribes Gordoni.

Forsythei viridissima.

Prunus triloba.

Cydonia Japonica.

Philadelphus grandiflorus.

Viburnum lantanoides.

Weigela rosea.

A New Amaranthus.

A VERY novel variety of the Amaranth family has been exhibited, in England, the past two or three seasons, under the name of the *Amaranthus Salicifolius* (Hort. Veitchii), by the well known house of Veitch & Sons.

Its habit of growth is so striking, and character so novel, that many of the experienced English gardeners hardly know what it is; as the *Gardener's Chronicle* says: "It may be an Amaranthus; at present we have no means of telling what it is. Perhaps, like *Iresine Lindenii* of the gardens, which is certainly not an *Iresine*, this may not be an Amaranthus. But then, what to call it, that's the question."

The plant is described as being an annual, of pyramidal growth, two or three feet high. The leaves are from five to seven inches long, by one-quarter inch in width. The color, in the young state, is of a bronzy green, which changes, as the plant gains age and vigor, into a bright orange-red color. Was introduced from the Philippine Island, by the late Mr. J. G. Veitch.

A correspondent of an English Horticultural journal thus expresses his admiration for it:

"Permit me to add my testimony to the beauty and grace of this charming plant



Amaranthus Salicifolius.

I happened to drop in at South Kensington when it made its *début*, and it so fascinated me that I had eyes for little else at that gathering of good things. My first impression was—Well, *Celosias* must have progressed marvellously since I left off growing them on account of their inveterate tendency to hark back to tufted Cocksecombs. With this stock, there is nothing to equal them. As I approached these plants, ‘These never can be *Celosias*!’ rose to my lips, before I had the pleasure of reading *Amaranthus salicifolius*. No cut or colored plate, no, nor mere description, can do justice to the full merits of this plant. Whatever place it may take in the flower and sub-tropical garden—and that will be very high, if it proves sufficiently hardy for out-door work—no plant can equal it for conservatory, table, room, or vase furnishing. It is no exaggeration to add, that I believe those long, drooping branches, so rich in color and graceful in form, will mark a new era in the furnishing of tall stands, epergnes, etc., with cut flowers. I trust it may be offered at such prices that every garden in 1872 may be lightened up with the brilliance and dressed with the grace of this charming novelty.”

The seed of this new *Amaranthus* has been introduced into this country, and will be announced, we suppose, in due time.

The American climate is well adapted to the growth of all *Amaranths*, being warm and dry. Usually these *Amaranths* do best in soil somewhat light, and in a dry season. The *Amaranthus Bicolor Ruber*, introduced last season, does not seem to have met with a very favorable reception here. Most of the seeds prove untrue, or nothing more than the ordinary *A. Bicolor*.

Grapes in the West.

GRAPE raising is at present an extensive business in the West, and wine making promises to become proportionately so before long. Our grape growers look somewhat hopelessly into the future. Grapes have sold at such *low* figures as to pay less than ordinary farm crops, and the worst about them is, that for a large portion of the crop there was *no sale whatever*. A greater proportion of the crop than ever before has, accordingly, been worked up into wine; but as our wine makers are, as yet, very inexperienced novices, the product of their skill is hardly more saleable than the grape pure and simple. It seems to me, that now is the time for wine factories to be started in the West. Grapes (Concord), perfectly ripe, and capable of producing a good article, will pretty certainly sell at two cents a pound, or less, next year. I believe that, at that rate, an almost incredible quantity could be contracted for in the upper Mississippi Valley alone (above Burlington and Keokuk). At two cents a pound for grapes, wine can be manufactured at fifty cents a gallon, with a fair profit to the manufacturer. At that rate, it should be worth the attention of enterprising capitalists, who could clear a handsome profit by buying the raw wine and working it up into sparkling wines. If this is not done, it is inevitable that our Western vineyards will prove less profitable in the future than common meadows or cornfields.

Ohio State Horticultural Society.

BY M. B. BATEHAM.

THE annual meeting of this Society was held November 22-24, at Milford, Clermont county, fourteen miles from Cincinnati. This location is in the midst of one of the finest fruit districts in the State, and the meeting was well attended by the practical orchardists of that region, with a sprinkling of well known horticulturists from other parts of the State.

The display of fruits on the tables was quite good, especially of apples. Most of these were remarkable for their high color, and the early maturity of the late winter varieties. Among the collections deserving notice, Dr. J. A. Warder, President of the Society, had 68 varieties; Mr. Geo. Park, of Parksville, Missouri, exhibited 17 varieties; and J. Truitt, of Quincy, Ky., 18 varieties, and also quite a lot of second growth apples, from one-third to one-half grown, from trees that blossomed the second time after the late frost in May. Many new and rare apples were found in these collections; but little time was found for their discussion. But few pears were on exhibition, and only two or three samples of grapes.

Of vegetables there were but few, excepting potatoes, of which there was a large display, common and sweet, embracing nearly all the approved varieties, and some new and valuable seedlings. Of these, the most noticeable were several handsome varieties grown from seed of the Early Rose, by G. W. Campbell, of Delaware, O.; one of which, on trial in several different soils and localities, is found to be of late maturity, fine size and quality, and enormously productive.

The evening exercises, on the first day of the meeting, were enlivened by good music, and a large attendance of ladies, as well as gentlemen, of Milford.

An address of welcome was given, on the part of the people of that county, by Rev. T. J. Melish. It was full of good points and fun. This was handsomely acknowledged by President Warder, who then gave his annual address, consisting of a review of the past year, with practical deductions, and good suggestions for the future.

Geology and Horticulture. Prof. Ortans, of the State Geological Survey, being present, favored the Society with an impromptu and very instructive lecture on the geology of that region, and the origin and nature of the different classes of soils, their adaptedness to fruit culture, etc. He was requested to write out the substance of the lecture for publication in the transactions of the Society.

Reports were given from half a dozen or more local Horticultural Societies, most of them showing gratifying progress. Several of them had been working very successfully on the *social plan*, holding meetings monthly, at the houses or grounds of fruit growers or farmers, with a basket dinner, or picnic, affording interesting occupation for the ladies. The plan was commended to all similar societies.

Mr. G. W. Campbell gave an interesting report of his attendance, as delegate, at the meeting of the American Pomological Society at Richmond, and the exhibition of the Pennsylvania Horticultural Society, at Philadelphia, in September last.

Forest tree culture, was the topic of a half hour's discourse, by President Warder, on the second day of the meeting—showing, that the planting and preservation of

forests was a matter of much importance to the people of Ohio, as well as those of the prairie States of the West. Prof. J. H. Klippart, of the State Board of Agriculture, followed on the same subject, giving statistics of the rate of the destruction of forests in Ohio for some years past.

Ad interim reports were given by members of the Committees from different parts of the State, respecting the fruit crops and other matters of interest to the Society.

Immense grape crops. The reports from the Lake Shore district, represented the grape crop of that region as large beyond all precedent, and the prices of the fruit in the markets too low for the interests of growers, but very favorable for the consumers. Col. Richmond, of Sandusky, said all the wine cellars were filled to their utmost capacity with Catawba, most of the finest quality, and yet a great many good grapes were ungathered. From all the information that could be gathered, it was found that *ten or twelve thousand tons* of grapes had been sold from the Sandusky district (including the islands), and about one million gallons of wine made. The price realized for the fruit was from two to four cents per pound. Judge Phillips, of Berlin, said he had twelve tons of grapes from three and a half acres of vines. Other instances were given, of still larger yields. It was the general belief, that many vineyards would be seriously injured for the future by the excessive crops of this season.

On varieties of grapes, there was not much discussion. Mr. Campbell reported more favorably than last year on the Walter, Eumelan and Iona, and was much pleased with the Croton.

Aphis in grape roots. Mr. Campbell had made some investigations as to the cause of little knots or bulbs often found on the young grape roots, and had discovered in them a kind of aphis, or plant louse, resembling the *Phylloxera vittata*, or leaf gall louse—and, in his opinion, it is the same identical insect that causes the mischief on both leaf and root.

A large plum orchard. Mr. H. Baily, of Chillicothe, in speaking of horticultural matters in that section, said he had planted a plum orchard of 2,600 trees—of Shropshire Damson—and he was of the belief that this would prove a more profitable investment than any other of the fruit kind which he could adopt. He raised all his own trees, and propagated them in rather a novel way—grafting them on young seedling peach roots, thus securing a sure and rapid growth, then planting them in orchard the following year, and setting the collars so deep that the grafts can take root above the jointure, as he believes most of them will do.

“What about the Curculio?”

Mr. Baily said he did not believe the insects would appear in sufficient force to materially lessen the crop, in so large an orchard, with the trees bearing as abundantly as they were inclined to do. He thought there would be plums enough for them all, and still as many left as the trees ought to ripen. But if the Turkish army should prove too numerous, he would contrive, some way, to give them battle.

(The Society are expecting to hold a meeting at Chillicothe next summer, and much interest will be felt to visit the grounds of Mr. Baily.)

“*Floriculture for the Million*,” was the title of an address by Mr. M. B. Bateham, Secretary of the Society, the main points of which were: the beneficial influence of

the taste for flowers, and of their general cultivation, as a means of making our rural homes more beautiful and attractive, and thus counteract, in some degree, the spirit of discontent and unrest so prevalent among farmers and their families, and that excessive thirst for wealth and display which is alluring so many farmers' sons and daughters from their quiet country homes to the fascinations and dangers of a city life. He spoke encouragingly of the manifest increase of floriculture during the past few years, in all parts of the country, for which he said praise is mainly due to the *floral seedsmen*, who were giving special attention to the sending of flower seeds of good quality, by mail, and publishing attractive catalogues, or "Floral Guides," furnishing to the millions the fullest information about the different flowers and their cultivation.

Mr. B. then spoke of some of the common mistakes of beginners in the laying out and planting of dooryards and flower gardens, and in the planting and culture of flowers. Col. Richmond and Judge Phillips followed with remarks on the same general subject, recommending everybody to cultivate flowers.

Painesville, Ohio.

Dissolving Bones.

MY mode of doing this is very simple and very effective. I have a large water-tight hogshead standing out-doors, near the kitchen. In the spring I cover the bottom about six inches deep with dry soil. On this I put a layer of bones of about the same depth, and cover them entirely with unleached ashes. On these another layer of bones, then ashes, and so on till the hogshead is full. I leave it then exposed to the rains all summer and winter, until the next spring. Then, on removing the contents of the hogshead, I find nearly all the bones so soft that they will crumble to powder under a very slight pressure, and, mixed with the ashes and the soil, they give me a nice little pile of most valuable manure, ready for immediate use. Any of the bones not sufficiently subdued, I return to the hogshead again for another twelve months slumber. In this way I have had no difficulty in transforming all the bones I can get into bone meal. I buy them directly from the butcher at a dollar a hundred pounds, for the purpose of turning them thus into manure, and consider them the cheapest fertilizer I can obtain.

Reading, Mass.

W. H. W.

Wachusett (Thornless) Blackberry.

I HAVE fruited this new and highly-lauded variety for two years. It is not entirely but only comparatively thornless. The fruit is small, and in no way superior, that I can discover, to the common blackberry of the woods and fields. If any body wants my plants, I will be *very* much obliged to him if he will come and get them, as I am anxious to put something worth growing in their place.

Reading, Mass.

W. H. W.

Plants for Flowering in the Shade.

AN acquaintance commenced planting a flower garden fifteen years ago, by cutting circular and elliptical beds in the green lawn, and for several years had a beautiful display of brilliant flowers. The trees, mostly evergreen, with some that were deciduous, which surrounded the garden, and occasionally were interspersed through it, have now grown up twenty feet high or more, and shade the flower beds so much that they have lost their former brilliancy, and some of them are entirely crowded out with shade. The owner is not willing to destroy these trees, and he inquires if there are not many plants which will flower freely under their shade, so that he may have both shade and floral beauty.

We suggest to him to make his grounds a place for *native ornamental plants*. All that grow and bloom in the woods, will grow and bloom under the shade of his trees. Some of the finest gems of the floral world may still be found in their native localities—and they are worth the effort to preserve and retain them, now that they are gradually retreating with the disappearance of our native forests. They may be taken up at any time after they have ceased to grow. Some, like the *Hepatica*, may be found readily by their leaves; others, like the *phloxes* and *lilies*, are soon lost by the dying down of their stems, and the places should be marked by sticks while they are in bloom, so that the roots may be found and dug up a few weeks afterwards. Now is the time to commence marking for such a collection, and it may be continued the summer through. In the meantime, prepare beds for their reception; some will grow in common or thin soil—such, for example, as are found on knolls and the sides of ravines. Others, like the *Cypripediums* and *Orchis fimbriata*, which grow in rather moist or peaty localities, should have deep beds of leaf mold for their reception.

Every person who has a taste for botany and for our beautiful native flowers, will know where and what to look for. But we may mention a few, among the many which may be chosen as samples:—*Hepatica triloba*, *Claytonia virginica*, *Erythronium*, *Trilium grandiflorum*, *Lilium Philadelphicum*, *Epigea repens*, *Anemone thalictroides*, *Sanguinaria*, *Phlox divaricata*, *Viola Canadensis*, &c. Those that are small should be placed by themselves, or mingled with other small kinds. To these may be added some of our fine cultivated plants which grow well in shade, as for example the *Auricula* and *pansies*. Native shrubs, as the *Azalea* and *Rhododendrons* would add to the effect; and on suitable soils the *Kalmia* would make a fine display. We have seen a striking effect produced by interspersing bushes of the *Rhododendron catawbiense* among the trees and undergrowth of a natural plantation. We cannot conceive of any finer effect than that produced by a brilliant profusion of native flowers, skillfully managed and growing under the dense shade of a door-yard or lawn plantation.—*Country Gentleman*.

The Variegated-Leaved Sycamore.

This is at present one of the best trees with variegated foliage. It is a vigorous grower, of symmetrical habit, and the variegation is very distinct. It is adapted to plant in groups with trees having dark colored foliage, and in this way produces a rich contrast. A good many, if not the greater portion of our variegated trees suffer from the sun—the leaves in many cases being entirely destroyed. This Sycamore endures the sun well.—W. C. B. in *Rural Home*.

Some of the Newer Grapes.

BY B. HATHAWAY, LITTLE PRAIRIE RONDE, MICH.

IN a season like the present, when this fruit is so abundant, and of so uniform excellence, it may not be safe to presume that the promise so many of our newer varieties have shown will be ultimately sustained. Still, it may be well to make notes of their performance for this year, if only for the aid they may render in making a final judgment.

Arnold's Hybrids.

These grapes fruited this year with me for the first. I had seen so many disparaging accounts of them—some parties going so far as to say that they were not worth gathering—that I had made up my mind beforehand they would prove worthless. When, however, they ripened their fruit, I found it of so marked a character, and so good in quality, as compared to several of our leading varieties, that I shall watch their further trial with considerable interest.

While I am compelled to make some reservations in praising these grapes, and whether or not any of them will prove of standard value, I consider them remarkable, as showing a capacity for amelioration and improvement not generally supposed to inhere in the *Vitis Cordifolia* or Frost Grape.

The Brant.

The objectionable point in this grape is its small size, being no larger than the Clinton—its maternal parent. It, however, ripens early, and while it retains something of the Frost Grape flavor, it is very sweet and pleasant.

The Canada.

Though somewhat like the foregoing, this grape is distinct in plant, and the fruit is larger, and of a more decided, aromatic and sprightly flavor.

The Cornucopia.

This variety has remarkable vigor, and the most healthy foliage of them all. In this, as in all the others, the Clinton flavor is very noticeable, but so ameliorated and interblended with that of its foreign parent as to be altogether agreeable.

I should not hesitate to pronounce this the finest grape in the collection, but for the fact that with me; this year, the fruit mostly cracked open in ripening, and, of course, spoiled. I do not, however, apprehend that it will continue to do so, as I have often had the Delaware do the same the first time it fruited on my strong soil.

If there is one of these grapes that will be found valuable as a wine grape, I feel confident that the Cornucopia will be that one.

The Othello.

This grape, though the largest of the five, and a vigorous grower, and fine bearer, has not been equal in flavor to the foregoing, to my taste. It is mild and pleasant, but lacks the spice and aroma of some of the others.

The Autuchon.

This grape is small—its greatest fault. It is claimed for it that it ripens with the Delaware; but with me it is two weeks later. It ripened, however, and early enough to keep well; and I will say that they all have the quality of keeping, or seem to have so far, in an eminent degree. A few of the Cornucopia left on the vines were in a good state of preservation, in spite of the hard freezing, as late as the first of November.

It is not my purpose to have my praise of these new grapes construed into a disparagement of other new kinds, of which I may not at present speak. Yet I cannot refrain from naming a few of the more noteworthy.

The Eumelan.

This grape has, this year, enhanced its previous reputation, a very valuable grape. Its productiveness, early ripening and fine flavor, make it one of the most desirable, and judging from the few pounds I still have on hand, it will be one of the best keepers of our early ripening sorts.

The Cottage.

This new grape, a seedling of the Concord, sent out by Mr. Bull, does not seem to attract much attention. This is, with me, one of the most remarkable vines on my grounds. It was only planted last year, yet it made some forty feet of ripened wood, and bore a few clusters of fruit of a flavor much superior to its parent.

The Salem.

I have fruited eight or ten of the Rogers Hybrids, for several years, and I have always claimed that No. 5 was the best that I had tried. This year my Salem bore fruit for the first, and proved identical with my No. 5. I also saw the Salem at several of the leading fairs, that was the same as my No. 5 and Salem. Now can any one tell if No. 5 is Salem, or No. 22 is Salem, or No. 53 is *the* Salem? for all these numbers seem to have good claim to the honor of this cognomen.

Forest Trees for Shelter, Ornament and Profit.

THIS new volume, by Arthur Bryant, Sr., President of the Illinois State Horticultural Society, just published, is one of the few devoted to the encouragement of tree planting in those parts of the United States where the land is either naturally devoid of timber, or in those sections where it has been ruthlessly stripped by mercenary hands.

Such books, practical, timely, and simply written, do great good in recalling our senses now and then to the impending perils we so often lose sight of in our eager haste for profit.

Mr. Bryant's position entitles him to a large influence, and his acquaintance with the entire West, and with all its distinguished Arboriculturists, render him familiar with all its needs, and able to possess rare opportunities for observation and research. Taking up the subject of the rapid destruction of the forests, and the contrasts betwixt the times of years ago, when such states as New York and Maine exported

large quantities of pine lumber, he calls our attention with distinctness to the fact that the forests there are now stripped, and scarcely a pine tree of old growth can be found. He estimates that at the present rate of consumption the entire supply of the Northwestern States will be exhausted in less than twenty-five years, and calls attention to the enormous consumption of one year only, 1869; in this year, in the three



Canadian Hemlock Spruce.

states alone of Michigan, Wisconsin and Minnesota, there was cut of lumber the large number of 3,311,372,255 feet. To obtain this quantity, 883,032 acres, or 1,380 square miles were stripped of their trees.

The rapacious demands of the railroads seem to be as enormous as those of the manufactories, and betwixt the two, all the hard wood and soft wood trees are cut down with the utmost rapidity. He alludes in a separate chapter to the evils result-

ing from the destruction of forests, whereby the climate is entirely changed, and refers to the stricken, desolate regions of Syria, Persia, Asia Minor, and even Italy, where rains have ceased, and living is precarious.

Glancing over the *Chapter of Favorable Influences of the Forest*, we notice a paragraph to the effect, that in some parts of Europe, particularly on the shores of the Gulf of Gascony, in France, government aid was invoked to help repair the damage done by a sandy waste, which in times of heavy wind often was gathered up and scattered over the huts and farms of neighboring villages. This was rendered stationary and harmless by planting it with the *Maritime Pine*. More than 100,000 acres were planted, and great quantities of tar, resin, lampblack, and timber were produced. In the North of Germany, large tracts of loose shifting sand were covered in this way with forests of pine. In the sandy wastes of Russia the *Ailantus* has been successfully employed, and other similar wastes have been made to yield a useful or a profitable return. About eleven preliminary chapters are devoted to general subjects, such as the *Influence of Forests upon Moisture and Rain Fall*, *Change of Climate in the Prairie Regions*, *Practicability of Raising Timber*, etc. On this last subject, he says :

“Any farmer, although of small means, can plant at least an acre of trees in a year. When the ground for a grove or timber belt is selected, the outer rows may be first planted, and others added from year to year as may be convenient. After the first three or four years, the trees need little or no cultivation, and will require only pruning, thinning and the exclusion of stock. To every quarter-section of 160 acres, there should be thirty acres of woodland, the proportion being about one-fifth.

“If the plans were generally adopted of planting timber belts on the north and west sides of farms or open plains, protection would be afforded on the other two sides by a corresponding planting of neighboring plantations. A belt eight rods wide on two sides of a quarter-section, would give about the required proportion of thirty acres. A farm which has one-fifth of it covered with thriving young trees, will always command a higher price and more ready sale than if it were destitute of wood.”

Several very practical chapters are given upon *Propagation, Planting*, and *Culture*, also *Pruning and Thinning*, which are short and to the point. Perhaps many would have liked twice as much matter in these chapters as have been given, but the author has written as simply as possible for beginners, not for professionals, hence has not wasted words.

The trees he thinks most suitable for screens are as follows :

“The evergreens most suitable for screens, are the Norway Spruce, the White Pine, the Red Pine, Scotch Pine, and Austrian Pine. The American Arbor Vitæ, Hemlock, White and Black Spruce are also well suited for this purpose, but do not grow so rapidly as those first named. A single row of evergreens, when well grown, is a very good protection against the winter wind; a double row is still better. Two rows of Norway Spruce, planted eight or ten feet apart, and ten feet distant in the rows, each tree being opposite the space in the other row, constitute as complete a shelter from the wind as a building of the same height. Orchards not otherwise protected should have screens planted near them. Experience has shown that shel-

tered orchards, other things being equal, are the most productive; besides, their fruit is less likely to be shaken from the trees by violent winds."

Profits of Timber, is a subject the author handles with care, not desiring to foster any extravagant ideas of a fortune to be gained in a short time. He admits the tree



European Larch.

culture will be very profitable, and selects the Larch as the tree of all others from which to obtain the most speedy return.

"In twelve years such a tree will furnish two fence posts. Allowing 400 to remain to become of larger size, and deducting 300 for those which are worthless or indif-

ferent, 2,000 trees might be cut from an acre, affording 4,000 posts, which, valued at only twenty cents each, would be worth \$800. The estimate of twenty cents each is much below what they would be worth in many parts of the country at the present time. The railroads annually require an immense number of ties, and no kind of timber is better fitted for that use than the Larch."

The estimate of profit is a very reasonable one, such as any one can accept as rather under than over the truth.

Over 200 pages of the 240 in the work are devoted to a descriptive list of all the useful timber trees of the United States. We have only to say that after faithful comparison with other works on the same subject, Mr. Bryant's is not only the best we have seen, but the most complete, his descriptions being very full and minute.

This work comes at a time when a good book on this subject is needed, and the horticulturists and farmers of the country should aim to give it a cordial welcome.

Mr. Bryant has prepared a special list of the most valuable timber trees for culture in the United States, and he arranges them in the following order :

- | | |
|--|--|
| 1. White Oak, <i>Quercus alba</i> . | 11. Pignut, <i>Carya glabra</i> . |
| 2. Bur Oak, <i>Quercus macrocarpa</i> . | 12. Linden or Basswood, <i>Tilia Americana</i> . |
| 3. Sugar Maple, <i>Acer saccharinum</i> . | 13. Tulip Tree, <i>Liriodendron tulipifera</i> . |
| 4. White Ash, <i>Fraxinus Americana</i> . | 14. European Larch, <i>Larix Europea</i> . |
| 5. Blue Ash, <i>Fraxinus quadrangulata</i> . | 15. Norway Spruce, <i>Abies excelsa</i> . |
| 6. Red Ash, <i>Fraxinus pubescens</i> . | 16. White Pine, <i>Pinus strobus</i> . |
| 7. Black Walnut, <i>Juglans nigra</i> . | 17. Scotch Pine, <i>Pinus sylvestris</i> . |
| 8. Butternut, <i>Juglans cinerea</i> . | 18. Red Pine, <i>Pinus resinosa</i> . |
| 9. Chestnut, <i>Castanea veaca</i> . | 19. Corsican Pine, <i>Pinus Laricio</i> . |
| 10. Shellbark Hickory, <i>Carya Alba</i> . | 20. Catalpa, <i>Catalpa bignonioides</i> . |

The illustrations here given are from the work.

The Beurre d'Anjou Pear.

BY PARKER EARLE.

IN many essential qualities, and possibly in many localities in all-important characteristics, the Anjou is our most valuable pear. As a tree it is superb in style and vigor of growth, in persistence of foliage, and in entire hardiness both in summer and winter. It bears early enough, yet not prematurely; and the fruit when free from defects has no superior in solid excellence, combining as it does all those conditions of texture and flavor which everybody wants in a pear, without any peculiarities of flavor or excessive qualities of any sort. Hence it is a fruit that will probably receive the unqualified suffrages of more pear lovers than any other in our whole list. The Bartlett is an indispensable pear, but many of us wish it was not so musky; the Belle Lucrative is too sweet, and lacks that refreshing power that comes from a commingling of flavors; the Seckel is too concentrated in richness; while many kinds which are very excellent when at their best, have an unsafe inclination to astringency, or to insipidity, or they tend to early decay.

But the Anjou, in addition to its agreeable proportions of sugar, acid and aroma, of juiciness and substantial flesh, and great reliability in all these respects, is one of

the finest keepers while in eating condition that we have; and its season is just right to be most useful in the family and profitable in the market. So it is not surprising that our highest authorities in fruit culture pronounce it the most valuable pear grown. But I have during the last two years noted a serious fault in this pear, in some localities, that begins to alarm me for its future. A portion of my pears for these two years, and many more this season than last, have been affected by a peculiar woody formation in the flesh, apparently of a fungoid character, which in some cases constitutes fully half the substance of the fruit, entirely ruining it, and in others occurs in isolated lumps and streaks, only slightly impairing the value of the particular specimen. Where this peculiar growth is excessively developed, it manifests itself outwardly, by a rough, pitted or pimply skin. These diseased fruits ripen prematurely and decay, even on the tree in some cases, a month or six weeks before the healthy pears have reached maturity.

It does not seem probable that the disease depends upon any peculiar condition of the tree, as both healthy and diseased pears grew side by side on the same branches. I judge that one-third of my crop of this variety was destroyed by this to me new pear disease, the present season. I have seen the same indications of disease in some neighboring orchards, and I found it in the Anjou and one other variety in an interesting eastern orchard the present autumn. I have inquired for it of many pear orchardists east and west, but it does not seem to have attracted much attention; and yet I fear it will not be confined to the two localities I have found it in. I call the attention of pear growers to the difficulty, hoping for some valuable hints toward a remedy.—*Country Gentleman*.

Notes from "Porte Crayon's" Garden.

BY DAVID H. STROTHER.

THE past season has been a very disastrous one for amateur gardens in this region, as we have had no satisfactory rains from March to November. The early spring was very promising, and on the 21st of April the season was fully three weeks in advance of former years. Owing to continued drought and the prevalence of chilly, drying winds, this advantage was soon lost, and growth so checked, that by the middle of July many of our fruits, flowers and vegetables were behind last season, and in August, while some had utterly failed to mature, others were a fortnight behind their time. Fruits and vegetables were diminished in size and of inferior flavor, while flowers were wanting in color and dropped their bloom prematurely. In addition, the gardens swarmed with insects, flying, crawling and burrowing in extraordinary numbers and variety, destroying such things as survived the drought. Yet in spite of all these discouragements, by dint of watering, shading and mulching, and an unrelenting war against the vermin, my garden has yielded me a fair supply of fruits, vegetables and flowers, and is in better condition than ever before for a prosperous future.

Strawberries.

All varieties were earlier than usual and showed an extraordinary amount of bloom. The Philadelphia, grown in matted rows, mulched with tan, and all runners clipped,

gave the best results in the uniformly large size, quantity and delicious flavor of its berries. The drought did not appear to affect its growth at all, while its yield was greater and of better quality than of any previous season. This improvement I attribute to the fact, that I mow the plants every season after fruiting, which practice seems to increase the thriftiness of the plant, and improve its fruitfulness. Notwithstanding the extreme dryness of the season I had them mowed this year in July, and the bed now looks uncommonly fresh and healthy.

The Triomphe de Grand showed an extraordinary amount of bloom, and I thinned the buds on a portion of the bed to prevent over bearing and obtain better fruit. In time it appeared that this care was unnecessary, as nature worked in the same direction; at least two-thirds of the blossoms failed, and the result was a moderate crop of berries, the largest in size and finest in flavor that I have yet gathered. I did not perceive that the hills artificially thinned did better than the others.

The Agriculturist, carefully cultivated in hills, gave the finest promise of fruit that I have ever seen. They averaged, I think, two hundred berries to the hill, many had three hundred, and in thinning a portion of the bed I took off, by count, from 150 to 180 berries per hill. Notwithstanding careful mulching and daily watering, this bed seemed to suffer severely from the drought, the vines turned yellow, and much of the fruit dried up before ripening. The larger berries grew knotty and ill-formed, many rotted before ripening, those matured were without aroma, and altogether the earlier crop was a failure and disappointment. The later pickings, after other berries were gone, were considerably better in taste and shape, but not sufficiently so to redeem its lost reputation. I conclude that this berry has deteriorated or won't stand a dry season. Another summer may enable us to settle the question,

Kitley's Goliath from Knox's nurseries, now in its third season, gave a few medium sized, late berries, neither good nor bad enough to deserve comment.

Of Jucunda; from one dozen potted plants obtained from Knox three years ago, there remain nine meager plants which produce nothing.

Raspberries.

Owing to frequent alternations from very mild to severe cold during the last winter, my raspberries were all more or less winter killed.

The hardy Kirtland suffered more than any other, and in consequence yielded a very thin and unsatisfactory crop.

The Black Caps did better, but even they lost a good deal of wood by the cold.

The Mammoth Cluster alone was unhurt, and gave large quantities of fruit, not very attractive in appearance or flavor. The drought is doubtless chargeable with this to some extent, and as this variety has proved both hardy and prolific, I have increased my plantation.

The Red Antwerp and Brinkle's Orange brought delicious fruit as usual, but not satisfactory in quantity. They had been protected with pine brush and suffered less from the cold than the hardy varieties.

I have added the Philadelphia and the Hornet to my list of raspberries, hoping in time to find the variety best suited to our soil and climate.

Blackberries.

Wilson's Early yielded a few berries the year after planting; none last year, and next season will probably be extinct here.

Kittatinny flourishes in growth and bears large crops of large berries. Our wild mountains produce better flavored fruit, and quite as large. The peculiar mulberry-shaped Berkeley blackberry described in a former letter, has thriven well with me, and its fruit is uniformly the sweetest we have.

Peaches.

My entire crop of Early Hale and early Crawford peaches was destroyed by the bee and their disreputable relatives, the wasps, yellow jackets and hornets, assisted by other winged marauders whose names are unknown to me. The Crawford's late and other varieties ripening in September were not attacked, and matured well.

Grapes.

My Concord vines were very thrifty, and set a heavy crop of fruit. As soon as the grapes began to color they were attacked by insects (chiefly honey bees), and before they were fit to eat three-fifths of them were destroyed. Those which escaped were inferior in size and flavor, and the eating season closed three weeks earlier than it did last year. These shortcomings we attribute to the drouth, as well as to the attacks of the bees, who, missing their accustomed pabulum in fields and meadows, have resorted to the gardens.

A neighbor presented me with two bunches of a white grape trellised on the south side of her house, a grape which, for appearance, size and flavor, is the finest I have seen in this country. The vine grows very strongly and matured a very heavy crop. Its name is unknown to us.

Apples.

Besides a thrifty young orchard, I have four old trees in full bearing, two Rambos, which are going into decadence, and two fine healthy specimens of the sweet Summer Paradise, described by Downing: "This is a delicious apple, very light, fine grained, of mild, aromatic flavor, ripening in October, and keeping generally until spring."

This season they are undersize, by reason of the drought, badly picked by insects, and are rotting so rapidly that we will not have one by Christmas.

Plums.

I have had six plum trees in bearing for three seasons, but owing to the *Curculio* have not yet secured a single ripe specimen. I tried shaking the trees over a sheet very honestly for two seasons, and got nothing. Last summer I let them alone with the same result.

Insects.

For the first three years of my Horticultural experience I kept poultry running at large during the spading season, spring and fall. These were penned up during the summer, and several caged hens permitted to rear their broods among the vegetables. During these years we had comparatively few insects, and rarely lost a plant by grubs or other subterranean vermin.

Two years ago, owing to the prevalence of chicken cholera, I banished the poultry. Since that time, and especially the last season, we have had insects in extraordinary

numbers and variety; in spite of a remorseless killing by hand, free use of all the nostrums and preventives advertised in the papers, one or two birds' nests in every tree and a pet toad under every bush and broad leaf, they have increased fatally.

My roses were attacked by green lice on the young shoots, green worms on the twigs, slugs, which anatomized the leaves, and rose bugs which ate up the flowers. I dusted them with lime ashes, plaster and brimstone, syringed them with decoctions of tobacco and quassia, sprinkled with solutions of carbolic soap and strong suds, all of which seemed rather to nourish and invigorate the vermin. I applied pure carbolic acid with a feather, which killed the bush. The slugs disappeared after this, but whether they died or left for fresh pastures, I cannot tell, I only know that in the fall my roses were well nigh annihilated.

A pair of long-tailed wrens hatched and raised two broods under the eaves of my porch. Within eight feet of their nest a young rose bush was eaten up by insects, and during the time I picked twenty-five or thirty large green worms from it.

About the middle of May, in close proximity to a dozen birds' nests, I discovered a small caterpillar (*solitaire*) rolled in the tender leaves at the end of the grape vine shoots, who, at his leisure, ate off the terminal buds, thus stopping the growth effectually. I pursued this worm for two weeks, and I believe I took one from every grape shoot in my garden. The birds seemed to take no interest whatever in the proceeding.

I had a fine bed of bunch squashes, which grew lustily, bloomed and fruited, promising a large crop. Observing that the leaves began to droop and turn yellow, I examined and found them infested with numerous angular flat-backed bugs, of a grey color, generally under the leaves near the ground (squash bugs I suppose). I cleared them out thoroughly. Meanwhile the plants continued to wilt, and finally perished, loaded with blossoms and immature fruit. On pulling them up I discovered the pithy roots and large stems of the vine near the crown filled with corpulent white grubs, as many as twenty in a single plant. This is doubtless the same breed of worms that destroyed Jonah's gourd.

Having lost several apple and peach trees by borers, in the spring of 1868, I prepared some thick paper with a coating of gas tar, and carefully wrapped my trees with it, beginning about four inches below the surface and extending twelve inches above. On examining this covering in the fall, I found it had served rather as a harbor for vermin than a protection.

Pursuing the borers with knife and wire, I also killed several trees, and since, have relied on lime and ashes around the tree, which seem to have afforded full protection.

Two years ago I applied gas tar with a brush to the stems and crowns of twelve thrifty peach trees, to keep away borers. There have been no worms, but this season four fine trees have died without apparent cause. Whether the tar has done the mischief or not, I cannot tell. These desultory experiences indicate that neither chemical applications, birds nor toads afford any adequate protection against insects.

A flock of ducks and chickens following the plough or spade in the spring and fall, will certainly thin out the most dangerous subterranean enemies of the Horticulturist, and all the rest must depend on persistent hand to hand fighting.

Berkeley Springs, West, Va.



Editorial Notes.

Hale's Early Peach.

Don't plant any more. We have never seen so marked unanimity upon any single variety of fruit, in its condemnation, as we have on this. A leading fruit grower near Richmond, with five hundred bearing trees, apparently laden with fine fruit, was able, on picking, to gather but five boxes of peaches suitable for marketing, and these rotted in twenty-four hours. And the general return of sales, by dealers to shippers, was in this plain but expressive language, *o! o! O!* We need only to refer to the fact, that this variety has been condemned by the Illinois State Horticultural Society, and American Pomological Society. *Does Great Cæsar want anything more authoritative?*

Apples for Virginia.

The following varieties are recommended by the *Rural Messenger*: *Winesap*, *Rawle's Janette*, *Ortley Pippin*, *Limber Twig*. New varieties well tested: *Mason Pippin*, *Gully apple*.

New Varieties of Peas.

Thomas Laxton of Stratford England, a lawyer with good practice, has in his leisure moments spent his time in cross-fertilizing the Pea, aiming to produce not only a variety of good quality, but with pods of good length, and plump interior kernels. After testing and retesting for many years, throwing away dozens and dozens of fair-to-do varieties, he claims now to have produced some varieties, which are real acquisitions. The leading sorts are, *William the First*, *Griffin*, *Popular*, *Superlative* and *Omega*. The best of them all in Mr. Laxton's opinion, is *The Superlative*, pods 7 inches in length, and kernels twice as large as any pea he has seen. The vines run to the height of 7 or 8 feet, but are usually pinched in when the growth is about 5 feet. Mr. Laxton, in a letter to us, states that besides his experiments in Peas, he has had excellent success in Apples, Roses and Strawberries, in cross-fertilizing; but thinks that in Peas, he has done more than any other man ever did, living or dead. "I want several life-times to work out what I have commenced."

Good Keeping Grapes.

In a market grape, the two most valuable characteristics should be, *to hang close to the bunch*, and *keep well*.

The Concord is well known to be a poor keeper, and grape growers are looking around for something more serviceable in this respect, although in growth and fruiting it is the most uniformly profitable kind we have.

The Ives is admirable as a market variety, ripens with the Concord, has a heavy crop of showy fruit. Is not liable to crack, keeps better than the Concord,

and hangs well to the bunch, much better than Hartford. With us we find it quite as profitable as the Concord.

The Israella, is the most perfect shipping black grape we have, very productive, early, and bunch the very perfection of symmetry and compactness.

The Eumelan will, we believe, become a very good market variety, if for nothing but its flavor, which is the best of all the black varieties.

Missouri Mammoth Blackberry,

has turned up again in Minnesota. Some one there has gathered some magnificent specimens of fruit. Once in a while—a very long while—these glorious specimens turn up to public gaze, but the extended silence “*between spells*” is ominous of its fate—“Consigned to oblivion,” by the majority of growers at large.

Out of the Chicago Fire!

We are glad to notice that our Chicago friends, the *Prairie Farmer* and *Western Rural*, have emerged from the fire with such brilliant colors. Their sheets are even whiter than before, and typographical appearance is even more inviting. Their vast army of subscribers seems to have responded with “*a long pull, a strong pull and a pull altogether*,” which is gladdening the eyes of those who need help and sympathy.

Should Fruit be Used as Food?

As nourishment, fruit has very little to be commended, for it will not support life alone when all other substances are removed. Neither should fruit be considered a luxury, to be looked upon as worthy of indulgence, only at occasional intervals. Fruit is a necessity solely as a corrective. Take away the stones and seeds of fruit, which are really not worth much, and there is not over 5 per cent of solid matter. They are very poor in albumen, but they contain large amounts of sugar and acid. Comparing it with solid food, it takes 5 lbs. and a half of grapes, 6 $\frac{2}{3}$ lbs. of apples and cherries, 10 $\frac{3}{4}$ lbs. of currants, 12 $\frac{1}{2}$ lbs. of strawberries, to equal but one pound of starch. Fruits are valuable for their acidity, which aid digestion and correct effects of too much meat or farinaceous food.

Winter Pears.

How delicious just now to open a barrel of good winter Pears, and take out a good mellow one of fair size, cut it with the knife, and let it dissolve piece by piece in the mouth. Is anything more appetizing or more consolatory? What have we now that we can keep to this late date? The list is very small; just look at it. Vicar of Winkfield, Lawrence, (possibly) Beurre d'Anjou, (perhaps) Josephine de Malines, Mount Vernon. Of them all none are easier to keep than the Vicar of Winkfield. We have always liked that tree. It is beautiful in bloom, beautiful in growth and beautiful in fruit. Its pears, kept down to the middle of winter and well ripened, have after all a very good flavor, and though nominally a cooking pear, yet is often good enough to be worthy of the table.

When gathering your pears handle carefully, pack away in the cellar, either in a box or half barrel in a dry place but cool. Look at them occasionally, and in December they will begin to ripen; often they have been kept until March.

The Beurre Clairgeau is one of the finest of our late keepers, often lasting down till March, and seeming to improve in flavor. We need more winter varieties still.

Floral Notes.

How to Grow Lilies.

These are so easy of growth, and, withal, so beautiful in bloom, that it is not strange every one is delighted with them. Dr. Swazey, of *The Southern Gardener*, recommends the following, as the three best and most deserving of a place in every garden:

Lilium l. rubrum. This is, according to our experience, the strongest growing and hardiest of the whole species. The ground color is a bright rosy-erimson, deli-

cately shaded to a pure white at the edges, and having the upper surface of the recurved petals thickly studded with prominent dots of deep crimson. With us, the *Lilium l. roseum* has always proved identical with this, and we very much doubt there being two distinct varieties under these names.

Lilium l. Album is very like the above, except in color, which is a pure white, covered with numerous projecting white dots. A most delicate and beautiful variety, that contrast well with the foregoing.

Lilium l. punctatum is not materially different from the others in form and habit, except it is one of the tallest growing of the species, and in a ribbon-bed of the several varieties should form the back ground. The color of this is pure white, with projecting dots of rich, deep rose color.

Any good garden soil, if rich, deep, light and sandy, will suit the Lily admirably, and these conditions ought to be secured artificially, if they do not exist already. Sand, leaf-mold, and well rotted stable manure, will be the applications most likely to be needed, and, when made, should be thoroughly incorporated with the soil, to the depth of a foot or more. Plant the bulbs ten or twelve inches apart, and so deep that the crown shall be at least three inches below the surface of the bed when finished off. Clean culture, and tying the flowering stalks to neat little green stakes as they advance in growth, is all the subsequent attention they will require in this climate. The bulbs are hardy, and should be planted out immediately where they are designed permanently to remain. They do not require annual removal, as is the case with more tender bulbs. As a general rule, the older a Lily bed is, the better it is, if it has been properly cultivated.

Hanging Baskets for the Parlor.

Very beautiful and choice looking hanging baskets, suitable for a window, can be made of any cup-shaped sea-shell. The ear pearl shells are prettiest, because of the beautiful variety of colors in the pearl. Suspend the shell by means of fine copper wire passed through holes bored near the top edge. This wire will not rust, and is much better than cord, which decays and breaks, by reason of the constant moisture. Fill the shell with rich loam, and plant in it *Lycopodium*, which is a species of running moss, showing a rich, bluish green color on its upper side, and a clear green on the under. This is much prettier than what is called *Lycopodium* moss; a plant of similar structure, but lacks the lovely variegated hue of *Lycopodium* proper. Either of these will flourish in a shell, and in a short time be of sufficient length to twine around the wires and hang over the sides. Shower it abundantly, as constant moisture is an essential requisite to its growth.

This moss will not die down in the winter season; but be green and fresh as when first planted, if regularly and thoroughly watered and kept in a temperature not lower than fifty degrees. It does not require sunshine, and the light just inside the window is not too strong for it; but if exposed outside to strong light and sunshine, it will soon become brown and faded. It is not necessary to bore holes in the bottom of the shell, as the retained moisture is not any too much.

I have a cunning little accompaniment to one of these handsome ornaments. It is a tiny basket with a handle, cut out of a single English walnut-shell, and suspended beneath the large shell. It is filled with a sprig or two of moss, growing in it as vigorously as in the other.—*Ohio Farmer*

The Marechal Neil Rose as a Greenhouse Climber.

This is one of the grandest Tea-scented roses that has ever been introduced. It is a giant, in every respect, of its size and fullness of flower, and it is a giant, too, in growth. It won't live on the Manetti stock. It makes an effort when in a young state, but it is so gross a feeder that the supplies which the Manetti send up are quite insufficient to keep up the system of the scion. It does much better on the brier. There the nourishment is less stinted, and it accommodates itself to the foreign stock. Whenever it gets a chance, however, away it goes on its own account, sending roots

at the junction, and revelling in good loamy soil, wherever it is placed within root reach. We saw a remarkable sample of this in the Belfast Botanic Gardens. A plant had been budded on the brier, and was planted in a conservatory in a tub full of good soil. The Marechal grew and grew, until it quite astonished the curator, who found that it had run right away from the stock, and was living principally upon its resources. The upshot was, that in May there were over two hundred splendid blossoms fully expanded at one time, a glorious sight in Flora. It was quite a wonder, covering many yards of the roof of the house, with its great, full, fine yellow blossoms.—*Scottish Farmer*.

Cyclamens.

As winter flowering plants, for garden, or window culture, there are but few which are more deserving than Cyclamens. The most popular variety is the *C. Persicum*, of which there are several shades of color—white, with a pink center; then entirely white, spotted with pink, to delicate purple, etc.

The following method for propagation has been used most successfully: The leaves with the stem are carefully removed from the bulb, so that a very small portion of the bulb remains on the leaf stalks; these are planted out in pots or boxes, which should be placed close under glass, in a moderately warm house. These offsets, as we call them, will make good flowering bulbs in the following year. The bulbs may also be divided; but this method is objectionable, as the bulb will never be perfect, and always apt to decay. After the flowering season, the bulbs should be taken up and covered with soil, which should be kept moderately dry; yet sufficient moisture must be given to prevent the bulb from shrinking, or drying up. In the Fall of the year, they should be planted in pots, and kept in a very shady, or even dark place, giving water sparingly, until the roots have again established themselves properly in the new soil. When the first leaves make their appearance, give them more light and water; and, from the time when they begin to show their flower buds, frequent watering is beneficial, although the soil should be of a porous nature, and well drained. Standing water is very injurious.—*California Horticulturist*.

Warm Water for Plants.

There were a good many who laughed at "*such nonsense*" when it was first proposed to water house plants with warm water, but it is now the rule, and those who do not do it are the exception. We notice a contributor to the Department of Agriculture, dilates upon the benefit of its use, as follows:

Last winter we had about one hundred plants in the house, and usually gave them warm water, and very frequently water that was much too warm for the hand; some water at or very near the boiling point, has been poured into saucers of the pots and just on the sides. We have about forty persons in the family, from different parts of the country, and their testimony is that they never saw so fine geraniums, heliotropes, fuchsias, verbenas, passion-flowers, oleanders. These plants show very marked improvement; others have flourished finely under the treatment.

All house-plants are better for being watered with water several degrees warmer than the atmosphere in which they are grown.

Keeping Geraniums.

I never have any trouble in keeping such Geraniums as are worth keeping. They are taken up and cut back pretty severely, removing all the succulent and unripe wood. They are then stacked in a box with some dryish earth about the roots, and put in the cellar for the winter. The trouble is in putting them away too moist. The earth should be almost dust-dry. I have a fine old Gloire de Nancy, which goes into the cellar for the fifth time. I have never tried the method of hanging them up by the heels. The plants are cut back, tied together by the roots and hung up in the cellar, heads downwards. Those who have tried this, report that it is successful.—*American Agriculturist*.

How to Grow Camellias.

Some one complains in the *Rural New Yorker* that their camellia plants, removed from the greenhouse to the parlor, have lost their buds, and of course won't flower this year. In answer they are told, and very correctly, that it is possible the loss of the buds was occasioned by change of temperature. The camellia must be kept in a cool, even temperature, while this plant is very particular about the soil it is grown in. The *Rural* says:

Camellias thrive best in cool, moist atmosphere—one quite different from that usually found in an ordinary sitting-room. Any considerable change in the temperature of the air or in the amount of water applied is very likely to make camellias cast their buds; still, we know of many ladies who have excellent success in growing and blooming them as parlor plants. We do not think the camellia is a difficult plant to cultivate, but it requires a peculiar treatment, and one quite different from roses and geraniums.

We would advise keeping your plants in an atmosphere not above 60 degrees nor below 45 degrees; keep the soil moist by giving plants plenty of water once or twice a week, but do not apply a little every day as is the too common practice with amateurs in window gardening. If the plants cast their buds again this season, take them out of the pots and soak the ball of earth for a few hours in water until it is wet through. If any of the roots are rotten, cut them away. Remove a portion of the soil, or all, if it parts readily from the roots. Now take good fresh loam from a hedge row or near an old fence—that which is full of rich vegetable mold—and add to this some old, rotten cow manure, say one-fourth the whole quantity of the latter. Break up and thoroughly mix this compost, and it is ready for use. Put the plants again in this material, being careful to put in plenty of drainage in the bottom, and see that every root is surrounded with soil. Press the soil in firmly, give water to settle it, and put the plants in a situation to grow again. Next summer, set the plants out-doors in a half shady position, and water them as required. Apply water frequently overhead in order to keep the leaves clean and free from dust. In autumn, remove the plants to the house, and if you do not water too freely, give too much heat, or make some other grave mistake, the plants will not fail to do well.

The Botanical Gardens of Trinidad.

It is good policy for the government of any country to establish a well kept botanical garden. In no other way can a person so quickly post himself upon the native trees or plants of the climate, but learn the possibility of acclimatization of plants from other countries. The Botanical gardens of Havana have been famous, for a long time, and scarcely a visitor to the island but esteems it a joy and privilege to be able to see the treasures gathered within the Royal Botanical garden. Casting our eyes, recently, over some paragraphs, we met with a pleasant description of the Botanical Gardens of Trinidad, from the *Evening Post* of the city, and herewith transcribe them:

"Among the botanical gardens of the British colonies that of the Island of Trinidad, near Port of Spain, is justly celebrated. The Island of Trinidad is separated from the mainland of South America by a narrow strait, and it commands, strategically, both the Gulf of Para and the mouth of the Orinoco river, the delta of which it nearly confronts. With a rich, deep, red soil it combines the delightful and fertile climate of the mainland. It produces, in abundance, sugar and cocoa, and furnishes us with a renowned quality of chocolate, which is bought up by one or two manufacturers as soon as it arrives here. The island is full of the life and vigor characteristic of many British colonies. The southernmost of the Windward islands, it is also the largest and most valuable. Its distinguishing features are the asphaltum lake—a sort of Dead Sea—the famous blue basin and the waterfall connected with it, the botanical gardens and the Governor's grounds. Waterworks convey the clearest water to Port of Spain, and irrigate the public gardens in all directions, although moisture is not wanting in these regions.

At the end of the botanical gardens, to which the Governor's residence is attached, are two majestic cabbage-palm trees, *palma real*, surpassing in size any of the same species in Cuba or Porto Rico. At appropriate distances, and tastefully distributed, are full-grown groves of nutmeg and cocoa trees, simultaneously producing flowers and leaves in great luxuriance. Besides these may be seen the tall tonqua-bean tree, the equally towering India-rubber tree from the Amazon, the cannon-ball tree, cassia groves, vegetable ivory palms (male and female), and coffee and tea plantations in full bloom.

On the Governor's grounds are grouped a variety of palm trees, difficult to describe, as they have been drawn from nearly all tropical countries. Of large flowering trees may be especially mentioned the newly introduced *Brownsia*, with clusters of deep scarlet-red flowers; the travelers' tree from Australia, pouring out water when its branches are cut, and hundreds of others less striking, although not, perhaps, less interesting and instructive. The finest gravel walks and lawns, admirably kept, lend an air of solid elegance to these charming gardens. There are gurgling springs of water, also, and fountains, with numerous beds of flowers. Brilliant humming-birds and butterflies, in great variety, give life and spirit to the scene.

This botanical garden is under the superintendence of a scientific botanist, who constantly exchanges plants with other colonial gardens, even with those in India and Australia. The garden was first established at the beginning of the century, hence many of the trees have grown to a large size.

Horticultural Notes.

Pennsylvania Fruit Growers' Society.

The next annual meeting of this Society will be held in Philadelphia, Jan. 17th, 1872, at Horticultural Hall. There will be addresses by the President, Josiah Hoopes, on "The Internal Structure of Plants;" by H. M. Engle, on "Grape Culture in Pennsylvania;" A. S. Fuller, on "Small Fruits;" Thomas Meehan, on "Vegetable Physiology."

Marketing and Ripening Fruit.

Much may yet be said in behalf of the better keeping, ripening and marketing of fruit; hence when we see any sagacious fruit growers awake and energetic in helping the public to sounder and more useful information upon the subject, we like to "pass it along." The following is written by a Pennsylvania Horticulturist:

This season I shipped cherries dead ripe, but they were picked by the stem, one by one, and put in quart boxes, these filled rounding, so that the cover would press them firmly, to prevent friction. The result was, they all arrived in fine condition, and sold without delay at a good price.

Apples for immediate sale, say for summer and autumn, should be in condition for use on arrival. If for eating, they should be mellow. If not mellow at the proper time for picking, as is often the case, they should be put in a dry, well-ventilated room for maturing. Dealers have neither time or facility for thus ripening fruit, and it is the business of the orchardist to see to it. A barrel of fully ripened fruit will command a more ready sale and a better price than the same fruit just plucked from the tree. In short, the profits of the orchardists depend very much on some of these apparently trifling matters.

Nearly all pears should be house ripened, for if put upon the market in an immature state as is usually done, they only command the price of cooking pears, and the same is true of apples.

Then again it will pay to attend well to the assorting. If you have two sizes on

the same tree it is best to put them in separate packages, for large well-formed fruit will command a better price than smaller though of equal quality.

The Southern Gardener.

This is no more ; after a short existence it has been consolidated with *The Rural Southland* of New Orleans, forming a Horticultural department of several pages by itself, under the charge of Dr. Swazey. It is well edited, for the Dr. is a very pleasant and practical writer. *The Rural Southland* is the most entertaining of our far Southern Rural Weeklies.

Prunings of Grapevines as Manure.

M. Liebig describes a plan of manuring vineyards with the prunings from the vines, which is successfully practiced in some parts of Germany. One of the vineyardists, M. Krebs of Sechem, says that for eight years his vineyard has been manured solely with the branches which are pruned from the vines, cut into small pieces and hoed into the ground about the end of July. The prunings being then in a fresh and moist state, undergo putrefaction so rapidly that at the end of four or five weeks not a trace of it can be found. M. Frahenfelder, a German vineyardist in the Bergstrasse, says that seven years ago a man named Muller had a vineyard in that locality which he manured with the branches pruned from the vines, and his vineyard was always in a very thriving condition.

Another evidence of the excellent effect of that kind of manure, is furnished by Wilhelm Ruff of Schrisheim, who says that from poverty he was unable to manure his vineyard, but having remarked the length, strength and greenness of the grass where the pruned branches of the vines were thrown, he resolved to try the effect of the prunings when applied to the vines. He dug the vineyard as deep as if he was applying barnyard manure ; then cut the prunings into pieces, placed them near the roots, and covered with soil. In a year the barren vineyard became quite productive. He continued this practice every year, and had the satisfaction to see his vines grow splendidly, and remain green and vigorous during the driest summers.

From this it is evident that the prunings of grape vines, at whatever season they are taken off, should be collected, cut into small pieces, placed in contact with the roots of the vines, and covered with earth.

Evergreens for Winter Covering of Plants.

For a great number of purposes we find evergreen branches of great value, and obviating nearly all the objections of other substances. They never become soaked and flattened together like straw or litter, but are always clean, and allow enough air in their interstices for the successful protection of any green plant. They do not, like straw, harbor mice. The wind does not blow them off, and they may be laid so as to have a neat and even ornamental appearance. They possess an additional advantage over most other coverings, in the retention of snow on the ground by drifting in among them. A very spare evergreen protection to the surface of the ground will prevent the snow from blowing off, and this of itself is well known as one of the best kinds of covering.

We find a great convenience in possessing a few square rods of Scotch pine trees on a waste piece of land, where we can at any time cut freely of all the evergreen branches we need, the growth of the trees replacing those which are thus cut away. This plantation was made of some surplus nursery trees. By using a little care, the boughs may be made to cover beds so as to present a smooth and symmetrical appearance. It is best to cut them so short that they will lie flat, and if the bed is circular, begin at the outside and form a neat circle by placing the tops outwards and the stems within. Let the outer boundary be as even and regular as that of the bed itself ; a very little time will accomplish this. Then at a proper distance within let a second circle be placed, and so on till the bed is covered. Small beds will need but one circle of the branches. Irregular beds will require a little more time and

care. This systematic mode of covering will form a more uniform and perfect protection than when the branches are thrown in at random and with irregularity.

When leaves are employed, the unsightly appearance of dead brush, employed to hold the leaves down, may be entirely avoided by a thin evergreen covering placed upon them in the regular manner, and with the finished appearance already described.

Ten, twenty or fifty Scotch pine or Norway spruce trees, planted on some convenient spot, and manured and cultivated a few years, so as to give them a rapid start, will be found of great convenience to all who have tender shrubs or ornaments, or who wish to enjoy the advantages of protection to raspberries and grapes when laid down, or to the more tender varieties of strawberries, besides for many other purposes.—*Country Gent.*

The Poetry of Trees.

Said Nathaniel Hawthorne: The trees, as living existences, form a peculiar link between the dead and us. My fancy has always found something very interesting in an orchard. Apple trees, and all fruit trees, have a domestic character which brings them into relationship with man. They have lost, in a great measure, the wild nature of the forest tree, and have grown humanized by receiving the care of man, and by contributing to his wants. They have become a part of the family; and their individual character is as well understood and appreciated, as those of the human members. One tree is harsh and crabbed; another mild; one is churlish and illiberal; another exhausts itself with its free-hearted bounties. Even the shapes of apple trees have great individuality, into such strange postures do they put themselves, and thrust their contorted branches grotesquely in all directions. And when they have stood around a house for many years, and held converse with successive dynasties of occupants, and gladdened their hearts so often in the fruitful autumn, then it would seem almost sacrilege to cut them down.

Gardening for Ladies.

How many enthusiasts there are now to be found among the gentle sex, in behalf of gardening or out-door exercise for ladies. It is quite refreshing to read such a dainty little story as this, told by Julia Coleman:

"I know one lady whose sensible doctor told her, twenty years ago, that she was half gone with consumption, and that her only chance of life was to be in the open air as much as possible. And a perfect bower of Paradise was her little yard. Was the soil poor? She enriched it. Were her varieties indifferent? She procured better. Nearly all the flowers were fragrant. Fifteen kinds of roses bloomed under her hands, and a succession of flowers filled out the summer. One side of the yard was covered with grapes. Peaches, plums and raspberries were trained *en espalier*, and choice squashes ripened on the roofs of the out-houses. Tomatoes were trained to single poles and yielded luxuriantly; and ruby strawberries peeped out even from the bleaching grass. She, herself, was as fresh and vigorous as you could expect one to be whose half decayed lung had left her with insufficient vitality. But her life was saved, and it had been a happiness to herself and a blessing to others."

She is right, too, when she says that more than half the credit for the ornamentation of our door-yards and homes, is due to the ladies who push the men up to their duty.

The Value of Bees in Horticulture.

We are glad to record the results of some actual experiments, by German professors, in relation to the use of the bee in horticulture. Usually there has been an intense prejudice against the poor bee; but at the Apiarian General Convention, held at Stuttgart, in Wirtemberg, in September, 1858, the subject of the honey-yielding crops being under discussion, the celebrated pomologist, Prof. Lucas, one of the directors of the Hohenheim Institute, alluding to the prejudice, went on to say:

"Of more importance, however, is the improved management of our fruit trees. Here the interests of the horticulturist and the bee keeper combine and run parallel. A judicious pruning of our fruit trees will cause them to blossom more freely, and yield honey more plentifully. I would urge attention to this on those particularly who are both fruit growers and bee keepers. A careful and observant bee keeper, at Potsdam, writes to me that his trees yield decidedly larger crops since he has established an apiary in his orchard and the annual crop is now more certain and regular than before, though his trees had always received due attention.

"Some years ago, a wealthy lady in Germany established a green-house at considerable cost, and stocked it with a great variety of choice native and exotic fruit trees—expecting, in due time, to have remunerating crops. Time passed, and annually there was a superabundance of blossoms, with only very little fruit. Various plans were devised and adopted to bring the trees to bearing, but without success, till it was suggested that the blossoms needed fertilization and that by means of bees the needed work could be effected. A hive of busy honey gatherers was introduced next season; the remedy was effectual—there was no longer any difficulty in producing crops there. The bees distributed the pollen, and the *setting* of the fruit followed naturally."

Samuel Wagner has also printed an article in his *Bee Journal*, upon the same subject. It is very important to fruit raisers :

In 1774, Count Anthony, of Porrrings, Seefeld, in Bavaria, President of the Academy of Science, at Munich, striving to reintroduce bee culture on his patrimonial estate, found in this generally prevalent prejudice (i. e. that the bees injure the fruit by its visits to the flowers) the chief obstacle to success. To overcome this, he labored assiduously to show that bees, far from being injurious, were directly beneficial in the fructification of blossoms—causing the fruit *to set*, by conveying the fertilizing pollen from tree to tree, and from flower to flower. He proved, moreover, by official family records, that a century earlier, when bees were kept by every tenant on the estate, fruit was abundant; whereas then, when only seven kept bees, and none of those had more than three colonies, fruit was scarcer than ever among the tenantry.

Wintering Tender Roses.

The Rural New Yorker recommends from successful trial, the practice of taking up and heeling-in all tender roses for Winter. It has proved much more satisfactory than keeping in pots or trying to Winter them in cellars. The operation, as we understand it, is precisely like the common heeling-in of trees practiced by nurserymen, with the addition of deep covering. Just before the freezing up of Winter a trench of sufficient length is dug in a dry sheltered place, the earth forming a bank on one side. Resting against this bank the rose bushes are placed, after being dug up with full and copious roots. The roots are then covered by taking earth from another trench a foot or two from the first, and so on. The roots only are covered at first, afterwards the whole tops. The covering is removed on the first thawing in Spring, by passing a fork under the plants, and shaking out the soil from the tops. Prune well before planting out. The whole operation is easy, and a man will lay in several hundred plants in a day. Unless the soil is quite light, we would recommend leaving a portion of the tops uncovered with soil, and place upon them a thick coating of evergreen boughs. *The New Yorker* says that five-year plants of the Solfaterre, Souvenir Malmaison, etc., have been perfectly protected as above described, and that they have come out freshly in Spring, and bloomed profusely the following Summer. In some localities it may not be too late now to perform the operation here described.

Flavor of California Fruits.

Although many have claimed that the fruits of the Pacific Coast were equal in quality to those of the Atlantic States, yet we see the testimony seems to point the other way. Our own convictions were expressed some time ago upon this subject, and

lately in looking over some notes, we find the following remarks by Josiah Hoopes, in one of his addresses before the Pennsylvania Fruit Growers' Society :

"I may say in regard to the larger fruits, such as the apple, pear, peach, etc., that their remarkable size and beauty appeared very little short of a miracle ; indeed I was totally unable to detect old standard varieties, time and again. Their enormous size and perfect shape, together with that peculiar waxy appearance proverbial to all California fruits, was a continual picture, and will not soon be forgotten. But, beautiful and large as are all these vegetable productions, there is lacking that delicious flavor, the agreeable aroma, and the richness of our less perfect but better fruits. We search in vain for these requisites beyond the Rocky Mountains, and I very much doubt if they have the more desirable acquisitions, or that we would exchange our quality for their appearance."

The Curculio.

This is becoming a greater pest in peach orchards, than it has ever been in plum trees. In many orchards, scarcely a peach can be found, but has been punctured by the "little Turk."

Pruning Blackberries.

The *Germantown Telegraph* says that the longer blackberry canes are unpruned, the shorter will be the laterals, and the smaller the fruit. To obtain the largest size berries, and the largest quantity, too, cut back the leading canes to not exceeding four feet in length, and shorten in, also, the lateral branches. In July, the young wood, which by that time has grown over the tops of the old bearing canes, should be clipped, especially the lateral branches. This will have a very good effect on the following year's crop.

Temperature for In-door Plants.

A writer in the *Scientific American* says that to succeed in growing plants in dwellings, it is necessary to keep the air around the plants of a moderate temperature, say from fifty to sixty degrees, and as moist as possible, by having the plants stand on damp moss, or other material that will all the time be giving off moisture among the leaves. Plants with large leaves like the Camelia, India-rubber plant, Century, etc., may be greatly benefited by occasionally sponging the leaves with water, by which means the dust that accumulates on them is removed. Small leaved plants may be syringed with good effect.

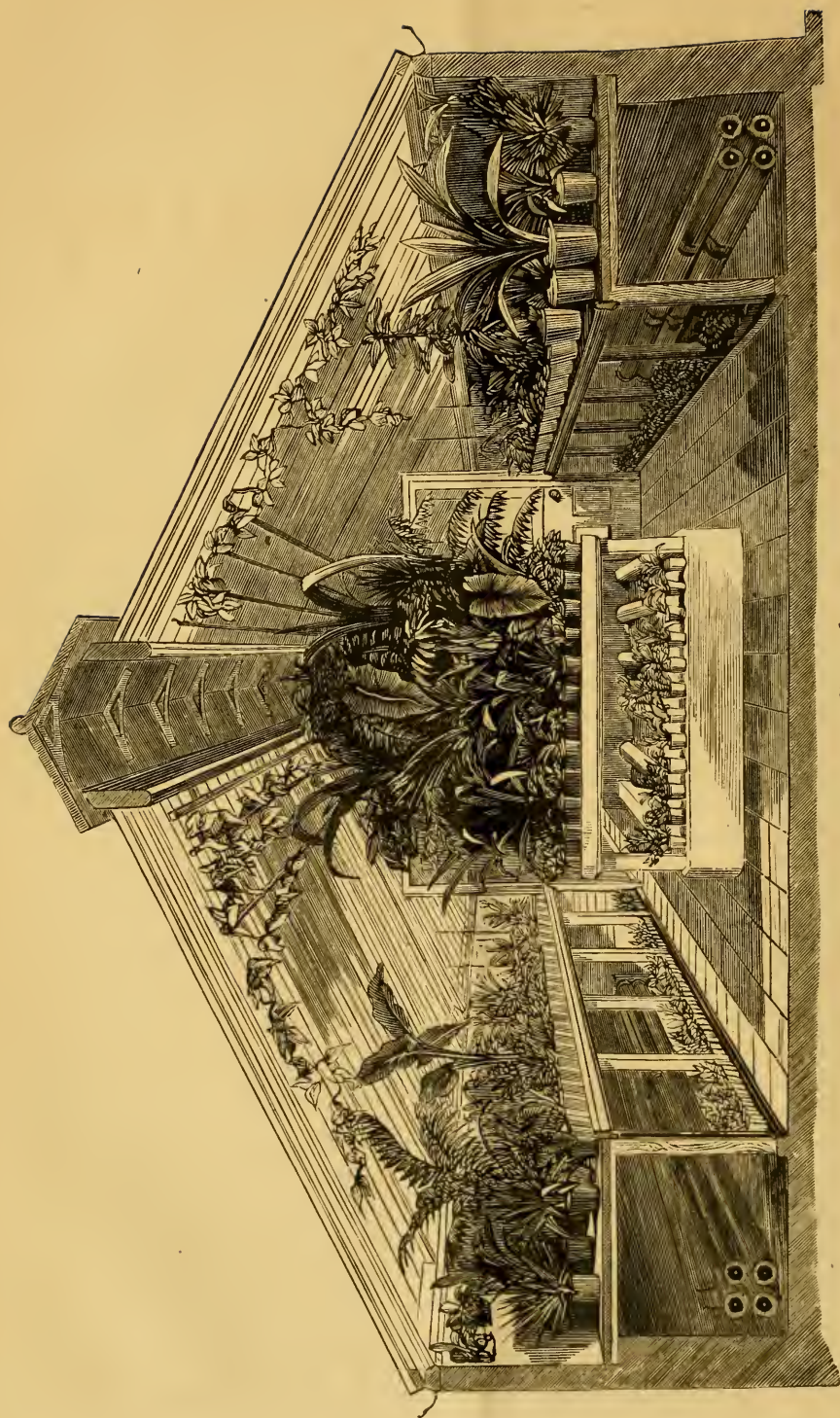
The Pistol Plant.

The *Floral World* says: "The Artillery Plant, *Pilea Allitrichoides*, or Pistol Plant, is a native of the West Indies, and is a very elegant and interesting subject for stove and greenhouse culture. We have frequently used it to furnish in-door cases, for which purpose it must be grown in good sized pots, and be plunged in the place it is to occupy, and it will continue to grow and bloom from May to October, in the temperature of a dwelling room. The minute, fern-like leaves, and reddish, pin-head sort of blossoms, fit it well for association with fine leaved plants. It is named the Artillery, or Pistol Plant, because when sprinkled with water on a hot sunny day, the flowers emit little puffs of pollen, like discharges of smoke from fire arms."

Flower Seeds Gratis.

Charles D. Copeland, of Lima, N. Y., authorizes us to say to our subscribers for the *Horticulturist*, that he will send gratis, a paper of mixed seed, of fancy German, India, China and Japan Pinks, and Sweet Williams, to each family receiving the work, who will furnish him their post office address with a stamp for postage on the seeds. The seeds he says are fresh, the growth of the past season ; and as great improvements are constantly making in floriculture, they embrace a very great variety of rich colors.

Enclose your stamp, write but a short note, simply stating the seeds are wanted, in very plain hand, and address Charles D. Copeland, Lima N. Y.



Interior of a Greenhouse.



VOL. 27.

FEBRUARY, 1872.

NO. 308.

The Trees of the Rocky Mountains.

BY DR. JNO. A. WARDER.

EDITOR of THE HORTICULTURIST: You were the means of giving great pleasure to a party of agricultural and horticultural editors and writers last summer, by organizing an excursion over the plains and into the recesses of the Rocky mountains, for all which the participants feel duly grateful; but some of us are anxious that the results of their observations should be put upon record for the benefit of the readers of THE HORTICULTURIST. I propose here to notice the trees that are characteristic of this region. They constitute but a short list, not to be compared to the sylva of the smallest township in the Ohio valley.

The deciduous trees embrace Poplars, Willows, and Maple, one Alder, one Birch and a dwarf oak; the first alone deserve the name of trees. In this elevated and arid tract, broad-leaved plants appear to be out of place, and those trees with a less extent of evaporating surface are better adapted to the climatic conditions by which they are surrounded. And yet the list of evergreens is not large, embracing as it does but five pines, two spruces, two firs, and three junipers, barely a dozen in all, and one of the last is only a shrub.

Prominent among the leaf-bearing and deciduous trees are the Cottonwoods, which are found along the streams, particularly on the islands of the rivers that traverse the vast plains, but they are also seen near the base of the mountains, and in the deep canons. Of these there are three forms or species. The common *Populus canadensis*, with its broad cordate leaves, makes a fine tree along all the rivers flowing into the Missouri, and it is applied to some extent to economic uses, though vastly inferior to the hard woods for almost any purpose in the arts.

This soon gives place to forms with narrower and smaller foliage. One of these has lance-ovate leaves, the other has them narrow and linear, resembling a willow

(*Populus angustifolia*), which is the only form found on the higher streams among the mountains. The foliage makes this tree resemble a willow.

Near akin to these is the Aspen, *P. tremuloides*, which, is found very abundantly along the mountain sides, and in the parks, at an elevation of from eight to ten thousand feet. Here it forms beautiful coppices and groves. Wide tracts of timber land are swept by the terrible fires that devastate the scanty forest-growths of this region; in these burnt districts the young poplars spring up in great numbers among the fallen logs of the pines and spruces that have been thus ruthlessly destroyed.

Where allowed to stand for perhaps fifty or a hundred years, some of these trees attain a height of seventy-five to one hundred feet, and have a thickness of eighteen to twenty inches at the base, with tall, clean, straight stems, which usually retain a smooth whitish bark. The Aspen is much used as fuel and for economical purposes, though it is neither strong nor durable.

Willows abound along some of the streams. One species, the *Salix angustata*, is quite ornamental—its narrow leaves adapt it to the arid climate.

One species of maple is found, in the vallies chiefly, with alders and a small birch (*Betula glandulosa*); none of these attain a height of more than fifteen feet, however, and are bushes rather than trees.

All along the eastern base of the mountains from Fountain Colony toward Denver, large patches of dwarf oaks made their appearance. These low bushes were laden with acorns, some of which were pedunculate, some sessile. Quite a number of these acorns were gathered and brought home with a view to propagating this very ornamental shrub. An examination of these seeds proves them to be nearly worthless, as they are infested with the larvæ of some insect. But a few of the acorns have germinated, and it is feared that a new pest to our native oaks may thus have been introduced among us.

Evergreens.

Some of the evergreen conifers are really majestic trees of great beauty, large size and considerable economic value, while the peculiar forms of others will render them especially attractive to the lover of trees. The pine forests of the Rocky mountains do not compare in value acre by acre, with the similar productions of some other regions. The trees are often scattering and the logs are not so long as those of our best pine lands. Their intrinsic value to the vast country to be developed is, however, incalculable, and it is a matter of deep regret that extensive fires have been allowed to sweep off vast areas of noble trees. This is not merely an entire loss of the growth of centuries, which was only waiting for the time that has now arrived, when civilized man is ready to utilize it, but it is to be apprehended that the entire denudation of such vast areas will increase the aridity of the climate.

The pines are usually scattered on the hills and mountain sides, frequently not more than twenty to forty on an acre, with wide open spaces between. This gives a park-like character to the scenery that constitutes its great charm, since, under these circumstances, the trees take on their fully developed form, and exhibit their peculiar traits and habit. In the ravines, and sometimes on the sides of the mountains, the trees are closely massed together when they have tall clean stems, and are most valuable to the forester.

The Pines.

The most common, prominent and useful form among this group is the *Pinus ponderosa*. These trees are found upon the mountains, in the parks, among the foot-hills, and stretching far out into the plains on the elevation called The Divide, which lies between the waters of the Platte and those of the Arkansas north of the thirty-ninth parallel, at an elevation of six or seven thousand feet. On the mountains, they reach an altitude of ten to eleven thousand feet, but are of diminished proportions. The tree usually has a tall naked shaft with a wide-spreading, sturdy and umbrageous head. Wherever exposed to the sun the outer bark peels off, exposing the fresher under barks with its brighter reddish color; in this respect it resembles the Red pine of the northern lakes. The leaves occur in twos and threes, both forms occurring in the same bunch of shoots. They are long, dark green, and often curiously twisted. They are crowded at the ends of the twigs. The canes are between three and four inches long, the scales terminated by a short recurved hook. The wood is heavy, not very rich in turpentine; it makes pretty good lumber and shingles. The wood acquires a dull, unpleasant brownish stain when exposed to the weather.

This tree is very characteristic of the mountains to which it belongs; it is grand and massive, a prince among pines. The species might be cultivated to advantage for timber plantations, especially in its native haunts and on the elevated bluffs of the great plains.

Pinus Banksiana, the Gray pine, is found on the tops of high hills, on a very thin soil. This tree was seen in thick coppices, either alone, or associated with other species. The trees were generally small, very compact and upright, and while young, rather attractive with their peculiar yellowish-green leaves. This species may be introduced into amateur collections for its effect in the landscape, but, owing to its small size, it cannot be recommended for timber plantations.

Pinus flexilis. This species was found at considerable elevations, scattered with other kinds. Its resemblance to the Cembran, has given it the name of American Cembran pine. The leaves are short and densely crowded. Dr. Parry's estimate of its range was verified, as we found it from seven to eleven thousand feet above the sea. This tree may be well adapted to ornamental planting, but it is of slow growth. Dr. Engelman found trees of one foot in diameter were from two hundred and fifty to three hundred years old.

Pinus aristata made its appearance only upon the highest elevations, about the line of ten thousand feet, on the most sterile and exposed summits. Here it stands as a characteristic feature and most appropriate to the surroundings of an elevated rocky region. This pine tree has a character all its own, nor can it be compared with any other of its class. Slow of growth, as might be expected in such a sterile soil and at such an elevation, we can readily believe that trees only one to two feet in diameter may have stood for six or eight centuries, as has been asserted. At extreme elevations the aristata is but a straggling bush, but in favorable situations it attains a height of forty or fifty feet. The peculiar character of this tree, by which it may be known as far as seen, consists in the contorted form of its branches, some of which are usually dead in all the larger trees, and project upward beyond the foliage like great antlers.

The leaves are short, in fives, crowded together, light green and very persistent, having been known to remain on the trees for sixteen years. In addition to these peculiarities, it has the habit of producing twigs from the stem and large branches, which are densely crowded with foliage, and give the tree another character by which it may be easily recognized. The whole aspect of the *aristata* is eminently Alpine, and peculiarly picturesque.

The growth of this tree is very slow, large trees are estimated to be from five hundred to eight hundred years, or by some authorities one thousand years old.

Pinus edulis, the Piñon or Nut-pine, was found only on the bare, rounded hills of red sand rock, that guard the Ute pass, near the base of Pike's Peak. Here it presented the appearance of a low bushy tree. The leaves are short, crowded, and dark green. The cones are short and have few seeds, as though to compensate for their large size. They are sweet and nutritious, and are gathered by the Indians for food.

The Spruces.

Spruces and Firs are represented by two of each group, the beauty of which renders them remarkable and very attractive to the sylviculturist, nor can the merely idle traveler pass them without expressions of admiration. No one can behold the Douglass or the Menzies spruces, without being struck with their peculiar beauty of form, of foliage, and of cones, while their noble size and graceful habit cannot fail to rivet the attention of the most careless observer who approaches their haunts in the wild ravines of the Rocky mountains. These noble trees are frequently found together, but the Menzies seems to prefer the lower and moister grounds, while the Douglass attains higher altitudes also. Engelmann considers the Menzies sub-alpine, occurring between the limits of seven to nine thousand feet, but a large tract was seen occupied by these spruces in the South Park, at an elevation of ten thousand feet above the sea.

The *Abies Menziesii* is often called the White or Silver spruce. It has longer leaves, and is less stiff and formal than its congener the White Spruce in the north, and will be a greater favorite for ornamental planting. The under side of the leaves is very glaucous, and give the tree the appearance of being frosted or silvered over, which is very beautiful. The cones are abundant near the tops, they are three or four inches long, and the scales have an irregular or wavy margin. The stem rises erect and tall, and is furnished with numerous dependant limbs, thickly branched with fine spray, bearing the frosted leaves. Our friends Meehan and Hoopes both speak favorably of this tree in cultivation, and it may be recommended to amateur tree planters, as well as for timber plantations.

Abies Douglassii. This noble conifer is the pride of the Rocky mountains, though it does not attain such magnificent proportions as were observed by its discoverer on the Pacific coast, where some of the trees are immense. Mr. Douglass found them from one hundred to one hundred and eighty feet high, and from two to ten feet in diameter. On the head waters of the Platte we measured trees two feet in diameter, that rose vertically one hundred feet or more.

The foliage of this tree is very beautiful, on the pendant branchlets, suspended from the spreading and often drooping limbs. The leaves are from one to one and a

half inches long, green above and silvery beneath, sometimes vicing in this character with the Menzies. The cones are from two to three inches long, purplish green till ripe, with bracts at the base. The scales are thin and terminate in long spines, which give a very peculiar and pleasing effect to this beautiful tree. For ornamental planting it appears to be very desirable, and we hope to see it introduced.

Firs.

Picea grandis, the Great Silver Fir, was found on the sides of Pike's Peak, at an elevation of about seven thousand five hundred feet. The trees are upright, conical, regular, the branches in whorls, the terminal shoot erect and strong. Foliage long, deep green and shining, in two rows. The cones are large, erect, purplish green, crowded near the top of the tree, quite resinous.

On the northwest coast, this superb tree is abundant and attains the height of two hundred and forty feet. On Frazer's river, Jeffrey says it is two hundred and fifty feet high and five feet in diameter; the logs fifty feet to the branches.

Picea Engelmani was not seen, though expected at Pike's Peak.

Junipers.

This group is not largely nor numerously represented. But three species were found; although the common Red cedar appears to be quite abundant on the bluffs that are found out on the plains, it was rarely seen in the mountains.

The *Juniperus communis* in one of its many forms was quite abundant, nearly prostrate and with a yellowish-green foliage. A variety was also seen which had beautifully variegated foliage.

Juniperus occidentalis was found on the eastern base of the mountains. The foliage of this species is adnate and not spiny, so that it resembles a very delicate Thuja rather than a Juniper, but the seeds or berries are a certain mark of its relationships: they are larger than those of the common cedar. The timber is light, soft and durable, and is remarkable for the absence of red heart wood.

Next to the paucity of this sylva, the remarkable traits are the peculiar beauty, and appropriateness of the characters of the different members to the habitats in which they are found.

Strawberries---Comparative Productiveness.

DURING a recent visit to the grounds of H. E. Hooker, of Rochester, who is well known as one of the most intelligent and successful cultivators of fruit at that place, he gave us the following list of strawberries, which he preferred for family supply:—Large Early Scarlet, Wilson, Triomphe de Gand, and Russell's Prolific. The Early Scarlet is valuable for its earliness, good quality and reliability. Taking the Wilson as the standard of productiveness, the Scarlet bears about one-fourth as much. Triomphe de Gand varies from one-fourth to one-half the crop of the Wilson, and the Russell, if well fertilized, about one-half, but sometimes about three-fourths as much. Green Prolific, although not of very high quality and too soft for market, is valuable for its great productiveness, being nearly or quite equal in this respect to the Wilson, and many would therefore find it valuable as a berry for family supply. Jucunda is somewhat uncertain in its crop, but comes nearly up to Triomphe de Gand in productiveness.—*Country Gentleman*.

Horticulture in Canada.

NOTWITHSTANDING the apparently unforbidding character of its cold climate and Northern latitude, yet it appears there is a wide section in Canada West, where fruit culture is quite profitable, and the people are deeply interested in the subject. In looking over the reports of the proceedings of the Fruit Growers' Association, at Goderich, Ontario, we see that there was a large display of fruit, of most of the varieties we usually see exhibited in sections of Northern New York. Apples, Quinces, Pears, are said to have been well displayed; and several bunches of Wilder grape (No. 4) were of surpassing size and beauty, weighing 16, 18 and 20 ounces.

A new seedling apple, of fine appearance and pleasant flavor, received a prize; and, strangest of all, several seedling peaches, out of a large collection by Mr. Cowherd, of Newport, near Brantford. Several of these seedlings were Clingstones; one in particular, was of very fine size, handsome appearance, and excellent flavor; flesh yellow, with dark crimson cheek.

Several seedling plums and grapes were shown. Of Mr. Arnold's newer varieties, the preference seems to have been given to the Canada, ripe about September 15th, sweet, fine flavored, free from pulp, but small in size.

An interesting discussion on pears elicited some valuable notes; while the Bartlett is generally as profitable as in the United States, yet the Flemish Beauty seemed to elicit more encomiums for its very fine growth and exceeding productiveness.

With one grower, the Winter Nelis proved to be the finest pear he had raised. Another found the Onondaga one of the best bearers; fruit fair, fine size and tree healthy.

The Toronto market, like many others, had been glutted with fruit. Beurre Giffard had brought but \$8 per barrel, and Bartletts not any better. For winter, one grower found nothing to equal the *Josephine de Malines* and Winter Nelis.

The Flemish Beauty and Louise Bonne de Jersey, were the most abundant bearers.

Adding to these the Vicar of Winkfield and Duchess D' Angouleme, and the list of best kinds for Canada seemed well made up.

President Burnet called the attention of the members to some varieties of pear not generally known. He had found the Fondante de Malines to be superior to the Belle Lucrative. The Graslin was a variety which does not spot; is large and profitable. Ananas d'Ete is hardy, and better than the Bartlett. Duchess d'Orleans is a very handsome and desirable fruit. Madame Eliza is also very handsome. Willermoz is very hard to ripen well. Viscount de Spailberg is a very fine winter sort, ripening about Christmas. Of the older varieties, he remarked that the Winter Nelis requires to be well fed, and it is then one of the very best of the winter sorts. The Vicar of Winkfield should be kept in barrels in the cellar, until near the time of ripening; then should be placed in paper bags, and kept in a warm room for about a fortnight, when they will be found to be good. The Lawrence is a very fine pear, always fair. The Sheldon bears great crops about Hamilton, and is much sought for in the market. The Louise Bonne grows well, bears abundantly, and sells well. The Flemish Beauty is one of our most hardy varieties, thriving well, even in the vicinity of Ottawa.

Mr. Mills, of Hamilton, keeps the Vicar of Winkfield in the cellar the same as apples, but ripens them by wrapping a few at a time in flannel, and placing them in a drawer in a warm room.

Mr. Leslie keeps only the best specimens of this pear; places them in a warm and dark garret, and they ripen up very fine. The tree is very healthy and hardy.

Mr. Watson, of Goderich, finds the Oswego Beurre a fine bearer, very hardy and profitable. The Louise Bonne is a good grower, and very productive, especially if supplied with a good dressing of ashes.

Dr. Cross stated that he had lost half of his trees of the Vicar of Winkfield with the pear blight, and thought the variety quite subject to this disease.

Mr. Ross had grown it for eight years, and found it healthy; and Mr. Arnold said he had grown it for twenty years, and the tree is yet healthy.

Mr. Dougall said they were not troubled with the pear blight in the vicinity of Windsor, and along the Detroit river. He had found the Howell a tender tree, and the fruit not of first quality.

Mr. Leslie had met with the same experience.

Mr. Ross said the tree grew well about Goderich, and was a great bearer, and the fruit was of fine appearance, but only of second quality. He had found the Beurre d'Amalis to be a great bearer, and of good quality.

Mr. Dougall said the Oswego Beurre did not sell well at Windsor.

Mr. Mills had found the Beurre d'Anjou a good market pear; the tree is not a very abundant bearer, never overloads, and hence the pears are always of fine size, and command a high price; from twenty to thirty dollars per barrel in the Boston market.]

Interior of a Greenhouse.

THE frontispiece represents a fine Greenhouse lately constructed for William Bull, Chelsea, England, and is considered one of the most admirably constructed and conveniently arranged houses for plant growing of the present day.

The range is about 47 feet long by 20 feet wide, $4\frac{1}{2}$ feet high at the sides, and about 11 feet from the paths to the apex of the roof. It is divided into two compartments, one being fitted for stove plants and the other as a greenhouse. Each division has a large center stage and side stages with slate tops and wood supports. Under the middle stage at each end is formed a bed, in which are planted climbers to be trained along the roof on light wooden trellis work. In the stove division there is also a hot water tank for evaporation. The paths are tiled and bordered with cement curbs on which the upright supports of the stages are fixed. Ventilation is effected by means of iron boxes with sliding covers, built in the outer walls near the path level, and by an arrangement at the apex of the roof. This, as shown in the figure, follows the form of the roof, and extends over the opening made therein sufficiently to prevent any chance of the rain falling or drifting into the side of the house. The ventilator is raised and regulated by a system of levers and quadrants, which being easily used, gives great facility for maintaining the desired temperature in the house. In addition, the coal compartment has upright sashes in both sides; they are hinged at the top, and may be all opened when necessary.

The Planting of Door Yards and Small Grounds with Ornamental Trees, Shrubs and Evergreens.

An Address before the Rural Club of New York, December 7, 1871. By Josiah Hoopes, President Pennsylvania Fruit Growers' Association.

“CAN there be a more rational, a more healthful, or a more pleasant employment for us all during our leisure moments than the cultivation of trees and flowers? Alike, the laborer and the millionaire may enjoy this bountiful blessing. From the simple grass-plot with its solitary tree fronting the vine-covered cottage, the costly park surrounding the mansion of the rich, up through a regular gradation, all can be made to yield abundant food for enjoyment. To the latter class, however, I cannot in my remarks this evening offer much advice; but to those whose taste for horticulture is sufficient to induce a personal superintendence of their own door-yards, I feel that my mission is to them. To all such, upon every occasion, I invariably commence with a stereotyped phrase:

“Don't plant large trees in small yards.”

One of the greatest of all errors, and one that is indulged in by so many of our planters in their horticultural infancy, is that of setting out a first-class tree in a second-class yard. Scarcely a town lot or a cemetery inclosure is laid out but this mistake is made, although ignorance in nearly every instance is the excuse, and justly so too. Taking, for instance, the laborer's cottage, with its few square feet of grass in front—and, by the way, what is more attractive than a well kept sod?—in the place of a Norway Spruce or Austrian Pine, I would suggest what is termed a dwarf evergreen—one of the smaller forms of *Arbor Vitæ*, now becoming so popular, or a Juniper with its variety of outline, or perhaps a form of the newer genus *Retinispora*. If the front should have a northern aspect, the best plant for this purpose is either some handsomely variegated variety of *Aucuba* or *Enonymus Japonica*. The newer introductions of these are exceedingly attractive, and a group composed of distinct kinds forms an agreeable feature.

Flowers and Flowering Shrubs.

To those whose taste for flowers is predominant, I would recommend a circular bed of roses, not planted promiscuously, but in lines or ribbons, each circle a distinct color, all trimmed low, and consequently well branched. If the entire bed should be of one variety, the effect will also be very fine. For this purpose the China or Bengal class cannot be excelled. The ribbon style must be formed of prolific blooming kinds, as the White Daily for white; Hermosa for pink, and Agrippina or Louis Phillippe for crimson. These are all reasonably hardy, and when the bloom is over in Autumn, they should be cut severely back and covered with coarse litter. The succeeding year, should the soil be well enriched, they will increase in denseness, and nothing can well exceed their beauty. Another pretty adornment for this smallest class of door-yards is the introduction of a group of small-sized shrubs, such as white, and rose-flowering Almonds, *Deutzia gracilis*, *Spiræa callosa alba*, Purple Berberry, red and white Snowberry, &c., with a Kilmarnock Willow, or Dwarf Weeping Cherry in the center. The shrubs must be annually pruned into a rounded form, thus inducing a close growth, and preventing a tall habit. Occasionally a solitary shrub of

large size may be judiciously introduced into a plot of this character, as for instance a Purple Flowering Magnolia; but in this case the specimen should be such as will strike the eye as novel in color, size, or peculiarity of bloom. I think the usual mixed flower bed, frequently seen in such locations, is poor taste; and although I yield to no one in my love for this class of plants, I should manage to create a pretty bed on the side rather than at the front of the house. Here let it receive a graceful flowing outline, rather than the old-fashioned circle. In it the plants should always receive due care in their arrangement, with an eye to fitness and position as well as beauty. Above all things, shun the now fashionable misnomers termed vases. I allude of course to those little nondescript articles that are a burlesque on the name and an outrage on good taste. In many of our country towns I have seen almost every inclosure disgraced with these wash-basins perched up on posts, with often a sickly-looking plant leaning over the edge, as if ashamed to be seen in such questionable company. And not only one, but frequently several together in imitation of a crockery establishment where the owner is desirous of displaying his wares. Now I do not wish to be understood as deprecating altogether this class of adornments, but in the name of good taste do let us exercise some discretion in the matter.

Vases.

Where the grounds are of sufficient size a handsome vase, of fair proportion, mounted on an appropriate pedestal, is always a pleasing object, especially when filled with healthy, suitable plants; and I have seen rustic vases formed of twigs and branches, with the base surrounded by Ivy, when the idea of fitness to the place was unquestioned. The handsomest vase I ever saw was of medium size, with a vigorous specimen of *Russelia juncea* in the center, and trailing over the edge was *Gnaphalium lanatum* intermingling with the delicate stems of *Ampelopsis Veitchii*. The slender, shred-like stems of the main plant were covered with a profusion of scarlet tubular flowers, hanging over and partly covering a few *Alternantheras* with richly-colored leaves. I recollect a pair of broad, yet very shallow vases, situated on either side of one of our finest residences, near Philadelphia, and, although some months since, the picture appears as fresh to my mental vision as if but yesterday. These ornaments were not two feet high, and were placed upon the ground without pedestals. The surface of one was completely covered with the metallic leaves of an *Echeveria*—the other with a very dwarf *Alternanthera*. Around the base of each was a bed of some large-leaved Ivy, encircled with a ring of the variegated variety.

Climbing Vines.

One of the greatest improvements to a small cottage, is the prevalence of vines clambering over it, so as to almost entirely conceal its outline. For this purpose nothing can be better than the American Ivy (*Ampelopsis*), and Golden-veined Honey-suckle (*Lonicera aurea reticulata*), closely intertwined, so that during the autumn months the effect of the golden and crimson foliage is beautiful beyond description. Over the front of the house, especially if there should be a porch, the effect will be heightened by a rampant growing Clematis, either *C. Vitalba*, the European Travelers' Joy, or *C. Virginiana*, our native Virgin's Bower. The abundance of pure white fragrant bloom on each of these, aided by a dense mass of foliage, is produc-

tive of good results. The Prairie Roses, owing to their entire hardiness and free-flowering habits, are also worthy of due consideration as cottage runners; but there is an air of stiffness and primness about them, which never harmonizes so well with their surroundings as do the vines before mentioned. When the cottagers of America are willing to receive a lesson in floriculture from the Paisley weavers of England, we may then date an era of progression which is sadly needed throughout our land to-day. The few hours spent during the evening, or early in the morning, on a bed of choice flowers will return compound interest, in pleasure, on a capital invested in labor; and my reputation for veracity will never be questioned when I state that, when men are once induced to feel an interest in plants, it increases with their years, so that rarely is it ever forsaken.

The Decoration of Lawns.

We now arrive at another and more ambitious style of garden—one rising to the position of a lawn. This class embraces the majority of small places, situated in the suburbs of our rural towns, and, to my eye, if planted properly, is unexcelled in quiet, yet attractive beauty. The winding walk, commencing, perhaps, at one corner of the grounds, gives one an opportunity of planting groups of choice shrubs at every turn. Among the newer kinds, of undoubted excellence, for this purpose, none can surpass the *Hydrangea paniculata grandiflora*, with its enormous panicles of pure white flowers; the *Viburnum plicatum*, like the old-fashioned snow-ball, producing large globular heads of snow-white flowers; *Weigela hortensis nivea*, with its silver bells; the dwarf variety of *Weigela rosea*, with variegated foliage and pale rosy-pink flowers; *Spiræa Thunbergi*, with narrow linear leaves and minute white flowers; and then the Rhododendrons and Azaleas. The sooner we disabuse ourselves of the idea that special receipts are needed for preparing the soil for the last two kinds, the sooner these lovely plants will become popular. Nothing whatever is necessary before planting, excepting to merely pare off the grass thinly, and then pulverize the soil beneath. Decaying grass roots preserve the soil in a mellow state, and afford nourishment to the mass of small fibers common to all ericaceous plants. A mass of Rhododendrons is always attractive from the peculiar nature of their glossy green leaves, but, when in bloom, the blending of colors presented by the many hardy kinds, render them preëminently the queen of flowering shrubs. The Ghent Azaleas, although deciduous, are, nevertheless, gorgeous in flower; their colors, of almost every hue, are dazzling in their brightness, especially the crimson, scarlet, and orange shades of color. The pure white, and different shades of rose, are likewise especially charming. It is not necessary for me to give you a list of hardy shrubs to plant; that can be procured from any nurseryman's catalogue; but, before leaving this class of plants, I would merely mention the *Pæonia Moutan*, or Tree Pæony, as being especially adapted for clustering on a well-kept lawn.

Trees for Small Grounds.

As I am not here to-night to give you a lesson upon landscape-gardening, even had I the ability so to do, I shall simply call your attention to a few of the most desirable

trees for what might be termed second-class places. For a group of low-growing trees, commend to me always certain species of the Magnolias. The *M. conspicua*, with pure white bloom; *M. Soulangeana*, with its white flower, striped and shaded with purple; *M. cordata*, with golden yellow, odorous bloom; and lastly, but very far from least, the beautiful *M. Thompsoniana*, with creamy-white fragrant flowers. We have here a group of four trees that cannot be excelled—hardy, beautiful—in foliage and flower, and so entirely free from injurious insects that they seem to combine all the excellencies one could desire.

Another pretty group of small-sized trees may be composed of the *Halesia tetrapetala* or Silver Bell; *Laburnum* or Golden Chain, and the *Cercis Canadensis*, Red Bud or Judas tree. Still another group of the same size can be formed of the *Prunus Padus* or European Bird Cherry; *Rhos cotinus* or Purple Mist; *Chionanthus Virginica* or White Fringe, and the *Cladrastis tinctoria*, Yellow Wood or Virgilia.

In a corner of the grounds a closely-massed group of the different colored double flowering Peaches will be very pleasing when in bloom; and where they will succeed nothing can excel the numerous varieties of Thorns. In the center of the Peaches I would insert a tree of Reid's Weeping Variety, a graceful drooping tree, and among the Thorns plant the weeping variety of it. These have a tendency to remove a certain uniformity of outline prevalent in all such masses. As we leave the small class of trees, and advance to those of larger growth, I unhesitatingly place in the front rank, if not at the very head, the Norway Maple. Seldom do we find its equal in all that pertains to a specimen tree. With ample foliage of the richest shade of green, globular in form, perfectly hardy and healthy in almost every situation, it appears peculiarly adapted to stand alone upon a beautiful lawn. Another, although of a widely different character, is the White Birch (*Betula alba*), and its delicate cut-leaved variety. The Silver-leaved Linden succeeds well everywhere and is undeniably a beautiful specimen tree, as well as the English Cork-barked Maple when branched to the ground. Although of large size, the Sweet Gum (Liquidamber) forms one of our most available ornamental trees. Beautiful at all seasons, with its curious corky bark, rich glossy star-shaped leaves, and picturesque form, it is well adapted for creating marked effects; and then in the Autumn its brilliant crimson hue is remarkably attractive. Either for grouping or as single specimens, the genus *Fagus* or Beech supplies us with a charming set of trees. Among the most striking in character I would place the Fern-leaved and Purple-leaved as especially fine. The cut-leaved Alder and the newer variety *asplenifolia* I consider very desirable for particular localities. There are very many other trees of beautiful form that are unfortunately not adapted for general planting. In the neighborhood of Philadelphia we cannot use the Elms because the leaves are often perforated by insects; nor the Ashes on account of the borers; the Mountain-Ash meets with the same fate, and the Thorns are destroyed by a fungus; the Horse Chestnuts become disfigured by midsummer, and so we have to rely on other trees; but where this list will succeed, as they evidently do in Central New-York, my advice is to use them all freely.

(CONCLUDED IN NEXT ISSUE.)

A Humorous Disquisition on Strawberries.

(From the *Aldine*, New York.)

THERE has been, of late years, an attempt on the part of our great men in politics, to establish a rural connection in a sort of horticultural way. They give their names to some plant or berry, which it is expected will be popular, and make them household words. These may, perhaps, be called nursery candidates. We have the Patch potato; Patch jumped off Niagara Falls, and was immortalized by a poem from Sands. We have had the Hubbard squash; Hubbard has been in Congress, and was one of the best patrons of pumpkin-pie in the Capital restaurant. We had Doolittle raspberry; Doolittle has been in the Senate. We are now trying the Colfax strawberry, etc.

It seems to me that if I were a candidate for office, I should hesitate about sending out a berry with my name. It is very risky business. You never can tell, for instance, what a strawberry will do. It may promise well in the nursery, and utterly fail when it runs over the country. A berry may do very well in Indiana, and miserably in New York. The soil of every locality is a new trial to it. Mr. Senator Wilson, to be sure, did very well with his strawberry. There was never before such a strawberry for the market. It is handsome in form, of good color, firm, is very hardy and prolific.* It is, in all respects, says a horticultural friend of mine, a first-rate berry, except in one—it is not good to eat. It is, however, an excellent berry to raise, and it is good to give away to the neighbors. It is easy to be generous with it. You have all the credit of giving away strawberries, and none of the regret at parting with them. This is coming as near a virtuous action without self-sacrifice as is possible in this poor world. And, after all, as the world is constituted, with not too nice a taste, I would as lief take my chance of running on the Wilson berry as any other.

But it does appear to me that Mr. Colfax has made a mistake in sending out his strawberry. As a symbolical berry it has its good points. The Colfax vines grow prodigiously, with a sort of western wildness, large, strong plants. They blossom profusely. The promise is extraordinary. And they bear, each hill, a hat full of berries, which are small, sour, soft, and, when fully ripe, have an unpleasant taste. The birds will not eat them; the smallest and most illiterate boys will not eat them—boys who will eat unripe cherries and green currants. To attempt to raise Colfax strawberries for the poor is a failure. I have had to let them go to decay on the vines. You cannot even be charitable with them. They are, probably, the poorest berries in the world; they are worse than the little Bryants, because the Bryants don't bear enough to mention; and I suppose than even "protection" would not help the Bryants. Besides, the Colfax infected the adjoining plot of Hoveys, and inoculated them with their own crudity.

It is possible that the Colfax might do better in other soil; but it is condemned, because a political berry must have universality. It is easy to fancy your strawberry patch a sort of test of character; you come to recognize the individuality of the

kinds, and so intensely like and dislike them. Therefore, I say, that for a politician to send out his berry is very hazardous. A decided hit is rare. The Charles Downing, for instance, has put itself in a good position. If the Jucunda, the elegant, high-bred Jucunda, is the queen of strawberries, the Downing is the king—the royal in flavor and royally prolific, as prolific as Queen Victoria. If Downing (who may have been the colored oysterman for aught I know) wants to run for President, now is the time for him to come forward. He will run well, and the fruit is superb. Horace Greeley began his political career by sending out strawberry plants, and it is partially owing to the popularity of his vines that he is now mentioned as a candidate for the highest office in the gift of the people. Grant's neglect of horticulture may cost him dear, although the General Grant tomato may redeem his reputation.



Keeping Evergreens through Winter.

BY PINNEY & LAWRENCE.

EVERGREENS can be safely kept through the winter in a cool cellar, or a damp room, in which the temperature is but little below the freezing point at all during the winter; freezing will not injure evergreens in this situation if they are excluded from a free circulation of the air, and do not rapidly thaw again. The small sized trees should be packed with tops open and exposed to the air, and the roots more fully enveloped in earth and moss, or straw, and kept quite wet all winter. We would advise laying them in a horizontal position, with sticks among them in such a way that the foliage will not pack and mat down and become wet and rotten, as it will rot in such a condition. Fully and well cover *all* the roots with earth and moss, and keep them well wet during the winter, taking care not to wet the tops.

The tops should be damp, neither wet nor exposed to a free circulation of air. A free circulation of air while in this condition will dry out the moisture in the branches and coagulate the resin, which will prevent the flow of sap in the spring; to secure this condition the tops should be covered with straw and occasionally dampened a little. As freezing does not injure them, rapid thawing, after freezing, does the harm. They can be safely kept out of the cellar, if carefully protected so that the winds and dry air will not come in contact with the foliage, and yet so free to damp air, so as not to mold and rot, and the roots well covered in soil and moss, and supplied with an abundance of water.

Trees in this manner winter perfectly; and if all the conditions have been strictly complied with, the roots will be found to have formed the granulations necessary to the productions of new spongioles, and the trees, if planted in a wet time, will start into immediate growth.

If trees arrive frozen they should be thus buried without exposure or thawing.

Sturgeon Bay, Wisconsin.

Difficulties in Growing Flowers.

BY ANNE G. HALE.

A SUBSCRIBER writes us: "I have a small house, and no suitable room to winter them in. Have been wintering them in a cold pit, or cave, with glass on the south side. My Camellias have grown finely, but failed to bloom. My Hydrangea, Cape Jessamine and Cactuses, all failed to bloom this season. My Coleuses, Verbenas and Salvias, damp off, more or less, every winter in the pits.

"I have a Night Blooming Cereus (61 year old) and an Oxalis. Can any of the plants named be made to bloom in a cave? If so, what treatment should I give them?"

REPLY.

Your plants are suffering from excessive moisture, I think. Suppose you see how far you can remedy this, by abating their supply of water. Do not give them any, even if three or four days elapse, unless the surface of the soil is of a very light brown color, and crumbles readily. Try this for a fortnight, or three weeks, and note the result. The apartment is so situated that evaporation takes place slowly; and there is so little ventilation, that whatever vapor rises, lingers in the atmosphere, is breathed over and over again by the plants, or is condensed, and falls again upon them in impalpable dew. The sash should be raised for five minutes, at noon, every few days, the plants being protected from the draught by newspapers pinned around them.

If this ventilation and withholding the water does not improve the health of your verbenas, salvias and coleuses, you had better try to give them more sun. You have a favorable situation for obtaining sunshine; but if the glass can be extended to form its roof, or, partially—in the manner of a Mansard roof—at the south side, the sun's rays would fall more directly into the apartment, purifying the atmosphere, and benefiting the plants greatly. And, if beside this, pipes conveying hot air or hot water, can be passed through the cave, the pots containing your plants being set in trays of sand over those pipes—facing the south—probably buds and blossoms would soon repay you for the expense. But, remember, even with this additional sunshine and heat, no plant should be watered unless its soil looks light brown. Possibly the hot air or hot water pipes alone, would have the desired effect, the glass remaining as it is.

The verberna needs a temperature of 60° to 65°, to flourish; cannot bear crowding, nor excessive watering. The coleus is a very tender plant; wants a regular heat of 65° to do well—needs less moisture even than the verberna. Salvias should have temperature and treatment the same as verbenas; they both require a great deal of sunshine to flower freely.

A moist and moderately warm atmosphere promotes the growth of the camellia and Cape Jessamine, at the expense of blossoms. This can be allowed them during the early summer; but for winter flowering, they should be taken as soon as they have attained a healthy display of new shoots to a sunny in-door situation—if bottom heat can be given them, so much the better—and *sparingly* watered. They must have a temperature of 60° by day, 45° or 50° by night, to produce blossoms; any sudden change in the temperature, or too profuse watering, will cause the buds of the

camellia to drop. After the buds have begun to open, remove the plant to the shade, to lengthen its season of bloom.

The hydrangea, to ensure winter flowering, should be kept in slow growth in the open ground through the summer; but early in autumn should be given rich, light soil in a large pot, with plenty of sunshine and water. It should have a great deal of room for its roots, and only three or four shoots be suffered to grow upon one plant. It needs 60° or 65° to enable it to put forth flowers.

The night blooming cereus, and all cactuses become sickly and soon perish, if kept damp. They need very little watering, and delight in a hot, dry atmosphere; must have loose, light soil, and a great deal of sunshine to blossom freely. The oxalis, also, is fond of a warm, sunny situation—is in more danger of harm from dampness than from drought; must have sunshine, or refuses to bloom.

Cultivating Fruit-Orchards.

THERE continues to be considerable difference of opinion as to whether fruit-orchards should be cultivated or not. We think the opinion of many experienced cultivators, which have always been our own, and from time to time has been given in our columns, ought to have weight. We think that young apple or pear-orchards can be cultivated with safety for three or four years, after setting out, among most of the least exhausting vegetables, especially lettuce, beets, cabbage, cucumbers, tomatoes, canteloupes, squashes, etc., until the trees reach from two and a half to three inches in diameter, when the ground should be put in meadow-grass and remain untouched by the plow ever after, all the manure required, being a good top-dressing every other year. We are firmly of the opinion that where fruit-trees arrive at a stage, where they are able to take care of themselves, they do decidedly better in grass than in anything else, and the grass returns a heavier crop of hay than timothy or clover, and is also excellent for pasture for both cattle and swine. We have seen hundreds of pear and apple-trees of choice varieties so situated, annually loaded with fruit and the trees in a healthy condition. We have still upon our premises six pear-trees, believed to be over a hundred years old, standing in sod which has been disturbed only once in fifty years, as we are informed, being in our possession over twenty-five years—that annually produce heavy crops, and three of them are still in a thrifty condition, each of which yielding good crops of choice pears from grafts inserted in fruit-bearing branches seven or eight years ago. This would seem to be pretty strong evidence in favor of the non-cultivation of standard pears.

As to dwarf pear and apple-trees the treatment should be quite different. We cultivate the soil about the same as any portion of the garden for vegetables, applying every fall a good top-dressing of stable-manure. If any of our trees grow too rapidly and are disposed to become larger than we wish them, they are root-pruned—that is, the spade is sunk down as deeply as it will go from two and a half to three feet from the stem, and this should be done every spring if necessary. If they spread rapidly we prune them to bring them into shape and proper size and have yet to see the first sign of any injury resulting.—*Germantown Telegraph*.

Choice Small Fruits.

BY WOODMAN.

TO give a list of small Fruits adapted to one locality, might not prove beneficial to others; but I believe the following list is good for almost any degree of latitude. At any rate, one cannot go far wrong who plants the following kinds of

STRAWBERRIES.

Wilson's Albany.

The best and most prolific market berry yet introduced. Although not of first quality, it is still a good berry; and its enormous crops of large, handsome, firm fruit—growing and bearing quite abundantly in any kind of soil and climate, render it a *sine que non* with everybody who loves and cultivates this delicious fruit for home use or market.

Green Prolific.

Who that has planted this almost peerless variety, where it is found to do well, would consent to be without a bed of huge dimensions, if he had the ground to make it on? The fruit is nearly all large—of a pale pink color, and although too tender for distant market, is positively the most prepossessing berry on my grounds, where can be found a score or more of varieties.

Doerner's Prolific.

This is the earliest variety grown, so far as my observation extends; and, grown in stools or rows, is as large as one could expect or desire in a kind so early. The whole crop ripens at once, and is gathered entirely before the main crops of other kinds come on.

French's Seedling.

Another early berry, in color like Green Prolific, but in flavor a little better. My "other half" esteems it best of all strawberries. The plants do not, however, resist drouth, and give way rapidly to weeds, and soon die out unless carefully and continually cultivated. However, I shall always give them a plat in my grounds.

Kentucky.

Of all the late varieties, this is assuredly the leader. Coming as it does with the burthen of its crop after other kinds are becoming thin upon the vines, large, luscious, handsome, and prolific, one feels that he has a real acquisition in this superb fruit. It has not been widely disseminated yet, but good genuine plants of it can be obtained in many places, at quite moderate prices.

Napoleon 3d.

Who would not have a few of these plants, if for nothing else than to show his neighbors the triumphs of the Horticulturist's art? Such magnificent berries, so large, beautiful, tempting and delicious. By all means, have a few plants anyhow, give them good culture, and see how splendidly you will be rewarded.

Other Kinds.

Of course there are many other kinds, in many places, even more desirable than those above praised, but we have only aimed to enumerate a few of the best according to our peculiar taste, and sure we are that our favorites are good enough for any one, where they will succeed.

RASPBERRIES.*Hudson River Antwerp.*

There are so few places where this princely variety succeeds, that we hesitate to name it here; but where it does flourish, it is indeed peerless!

Kirtland.

To our taste, we prefer this kind to all others among the red sorts. Why? Because it is the earliest, is also excellent in flavor and a great bearer. It *almost* unites the Strawberry and Raspberry seasons. Its crop is gathered in a few days after beginning to ripen, and seems to bear cold climates admirably. True, in dry climates its foliage drops before fruiting is over, and to some extent this lessens the crop; but enough is left to always amply reward the cultivator.

Philadelphia.

It is an enormous bearer of large red, splendid fruit, is hardy under all circumstances, and pays better for the culture given than any other variety whatever. It is to *its* family, what the *Wilson* is to the Strawberry family.

Mammoth Cluster.

This is the King of the Black Caps, truly. Call it what you will, McCormick, Miami or any other name; it is nevertheless a royal fellow, and stands without a peer in any and every quality which renders a berry admirable, prolific, hardy, large, luscious etc., etc.

Doolittle, B. C.

This is an excellent early fruit, and a great bearer. I esteem it very highly indeed, and always cultivate it.

Davison's Thornless.

This is another good berry, very early and productive; and, on account of the absence of thorns entirely, a real pleasant fruit to cultivate and gather.

Purple Cane.

But how can one say too much in praise of this truly marvelous variety? Its success everywhere is a fixed fact. Its crops are perfectly wonderful to behold! I have often, from single stools gathered two gallons during a season. The berry is juicy and very excellent, and for jam or for canning at home, no other kind can equal it. If I had to select three kinds from among the scores in cultivation, I should take *Philadelphia*, *Mammoth Cluster*, and *Purple Cane*, and beg hard for permission to carry along with me a lot of the *Scarlet Kirtland*.

Stanford Ky.

Judicious Pruning of Fruit Trees.

PROBABLY no one point in fruit culture has excited so much diversity of opinion as the best method of pruning fruit trees.

One says: I never prune my trees, and shows an orchard bending down with fruit as his conclusive argument. A second, prunes only a very little, and lets the roots of his trees run in grass, and shows his orchard as a good example. A third prunes in summer, and none in winter, and believes there is nothing like summer pruning. A fourth does not believe pruning amounts to much, unless it is done on the wholesale plan, and so cuts off huge limbs here and there, until the entire top of the tree looks either like a scare-crow, or a soldier with each arm and leg mutilated or all cut off.

In a late number of *THE HORTICULTURIST*, Mr. William Saunders favored us with his practice and experience. And now we think it well, at this season of the year, when pruning is usually practiced, to reproduce an article written by Henry Thacker, of the Oneida Community, for the *Oneida Circular*, which seems to us to be full of common sense in its directions.

"There are different minds as regards the best time of year in which to perform the operation of pruning. Some recommend summer, some fall, and others winter, as the best time; and still others, and perhaps the largest class, adhere to the old method of spring pruning, doubtless for the reason that it is found to be the most convenient time of the whole year. A light pruning, as the topping off of small limbs and cutting away of sprouts, may no doubt be performed with safety at any time of the year. But in case of heavy pruning, and the cutting away of large branches, we regard spring as the worst time in which to perform the operation; for the reason that, the sap then being in its most active state, a serious derangement of the functions of growth is brought about, which becomes manifest later in the season by the multitude of sprouts that shoot forth, and the forcing of the fruit-spurs into an unnatural growth of wood, at the expense of the usual formation of fruit-buds; and the result, in many instances, is an entire failure of the fruit crop the following season.

"But this is, by no means, the extent of the mischief that is frequently brought about by injudicious pruning at this season of the year. When wounds are made in a tree in the spring of the year, by the lopping off of large limbs, the sap flows out through the pores and ferments, causing the parts to turn black; the wounds do not readily heal over, and, in the course of two or three years, rot commences and extends to the trunk and main branches, and, sooner or later, the trees go to decay. The case is otherwise when pruning is performed at the proper time of year. The surfaces of the wounds soon dry and become hard, and when not very large, generally heal over before rot commences, even where no covering is applied. Still, all wounds caused by sawing off limbs more than two inches in diameter, should receive a proper covering. But the better way is to so manage an orchard while the trees are young, that the lopping off of large branches in after years, will seldom be found necessary. However, when orchards have been neglected, and considerable pruning is considered necessary, we have, in our twenty-five years of observation and experience, come to

the conclusion that, all things considered, fall is the best time to prune; say from the middle of September to winter; beginning with the trees that are not in bearing, or that have yielded their crops for the season, and finishing after the main crop has been gathered.

“The advantages of pruning, at this season of the year, in preference to others, will appear from the fact, that after growth has ceased, and the tree gone to rest, the functions of growth are less liable to be disturbed by the operation; the wounds readily dry and become hard, and consequently are less liable to decay, and sprouts will not be found troublesome the following season. The business may also be continued during winter in mild weather, when there is no frost in the timber.

Covering for Wounds.

“The following compound we have found to be the best and most lasting covering for wounds, viz.: Rosin, 1 lb.; tallow, 1 oz.; alcohol, 5 oz.; spirits of turpentine, 1 tablespoonful. Melt the rosin and tallow together over a fire. Then remove, and add the turpentine and alcohol, turning in the alcohol slowly, and stirring briskly; being careful not to have the rosin too hot, or the alcohol may take fire. (Should such a thing occur, smother the fire by covering the vessel with a board or piece of woolen carpet.) Stir the mixture until nearly cold, then turn into a wide-mouthed bottle, and keep corked when not in use. Apply the cement in a thin coating with a suitable paddle, when the alcohol soon evaporates, and the cement becomes as hard as the wood itself, and will remain on the wood for years.”

Pencil Marks by the Way.

BY OCCIDENTALIS.

Catawba Grapes.

AT a late meeting of the Warsaw (Ill.) Horticultural Society, Dr. C. A. Warner advanced the opinion that the Catawba is still the most profitable grape in his vicinity, both for market and for wine. In this opinion he was sustained by the almost unanimous vote of the Society. In view of the fact that in their own locality even, the Catawba was, this year, a partial failure, and the Concord gave a magnificent crop, this decision may seem a strange one. But then the best of Concords sold in the market for three and four cents per pound; and for wine the Warsaw folks conclude that a half crop of Catawbas is better than a full crop of Concords.

The Sap-Sucker Indicted.

Wm. N. Grover, Esq. brings a bill of indictment against this bird, before the aforesaid Society. He pointed out large numbers of trees that were very badly injured by these birds. In many places, the fresh green bark had been almost entirely pecked away for spaces as large as a man's hand, and in other instances

numerous holes were pecked around the body of the tree. They could not have been after worms, as the places most injured by their depredations were smooth, and had no hiding places for insects; while in other places the larvæ of the codling moth were found under rough pieces of bark undisturbed. These facts tell strongly against the birds; and Mr. G. further charges that they leave no *chips* at the root of the trees, and hence that they eat the bark; and furthermore, that they have been dissected, and the bark found in their stomachs. He lays his damages at one hundred dollars in 1871.

Who will appear in defense of the Sap-Sucker, and succeed in parrying the force of this accusation?

Pawlonia Imperialis.

I have succeeded in growing a number of these trees from the seed—now two years old. They are very easily produced, but are said to be too tender for the Northern or Middle States. I took mine up in the fall, and packed them away in dry sand in the cellar.

Now, I wish to present this question to you and the experienced readers of THE HORTICULTURIST: Will it not do to treat them as we do Oleanders—place them in tubs or boxes and keep in-doors during winter? And will not this treatment dwarf them and cause them to bloom at an earlier age than with outdoor culture?

Banks of the Mississippi, Nov. 1871.



Flowers in Schools.

SEVERAL benevolent gentlemen interested in the work of the "Children's Aid Society," New York, and having faith in the elevating and refining influence of flowers, contributed during the past Summer, toward the erection of a greenhouse as an additional attraction to the Rivington-street Industrial School and Boys' Lodging-house. Not long since, a day was set apart as dedication day; the greenhouse was filled with rare and beautiful plants, arranged with great skill and taste by the Superintendent, Mr. CALDEN. The children who attend the day school and the lads who make the lodge their nightly home were present in large numbers, while all the available space at either end and at the sides of the room was occupied by ladies and gentlemen. In the lower hall, on a table some fifteen feet in length, was displayed a large variety of plants, which, during the past year, have been distributed to the poor children of the neighborhood. These were returned for this occasion, so that those interested might see what care and attention had been given by their owners to the little plants which had brought light, beauty and fragrance to their otherwise dreary homes. Besides the plants on exhibition, and the rare display in the greenhouse, the reception-room was gracefully decorated with the same beautiful emblems. The children sang some blithe and merry songs, and short addresses were made by C. L. BRACE, Rev. Mr. FROTHINGHAM and others. It is needless to say that the flower mission of the originator was a success.



Editorial Notes.

Tilton's Journal of Horticulture.

This has suspended, or rather we might say, "gone where the woodbine twineth."

The publishers occupied nearly a week in proposals to us to consolidate with *THE HORTICULTURIST*, but finding it impossible to arrive at any exact facts as to the value of its subscription list, or any reasonable terms for consolidation, we could not delay our January number any longer, and ordered it printed and mailed without waiting for any further negotiations.

Since then, official notice has been sent to its subscribers that it has been discontinued, and the December number of 1871 is the last that will be issued of *Tilton's Journal of Horticulture*.

The publishers state, that after a trial in every possible way to induce the public to patronize a well-managed horticultural magazine, they have found so little appreciation, and abandoned the effort with much pecuniary loss to themselves. *Tilton's Journal* has been published in several different forms to suit the popular taste.

It was first printed in most elegant style, and intended to be of superior typographical neatness; it deserved credit in this respect. The publishers were stirring, active men, eager to secure contributors, and they did secure them too. We venture to say that no horticultural magazine, in so short an existence, ever gathered together so many articles from the best known horticultural writers of the day.

The publishers found its high-toned plan and prices not remunerative, and then tried the cheap plan, at low prices of subscription, and now this too has failed.

Boston is without its horticultural journal; Hovey merged into its youthful aspirant, only to find at last the union was not successful.

Out of six horticultural journals that existed two years ago, three have failed, and *THE HORTICULTURIST* still leads the van, the oldest in age and well established in public confidence. We are sorry to see such horticultural magazines go down, but we might as well tell all frankly, there are two reasons why such periodicals are not more successful:

1st. There is but a limited class out of the community at large who can and will interest themselves in a class journal, especially devoted to gardening and fruits.

2d. The agricultural journals of the present day have stepped over into the field of horticulture, and by engaging horticultural editors, writers, etc., draw away a great many from the patronage of the horticultural magazines. Their readers feel well satisfied, too, with the modicum of information their weekly family or rural paper affords to them, and hence have no desire to look further.

In the older days of *THE HORTICULTURIST*, this was not so. No agricultural papers then were treating specially on horticultural subjects, and every one looked to *THE HORTICULTURIST*, and nowhere else, for its appropriate information.

The *Gardener's Monthly*, of Philadelphia, next in age to THE HORTICULTURIST, has in it the elements of a popularity and prosperity which will we hope keep it safely along for many years to come in a successful career.

The *Small Fruit Recorder* partakes more of the social and family element. We hope its trials will see it safely established.

The *Western Pomologist* we offer every encouragement to, for we are all friends and brothers in a good cause.

Departing Glory.

Our next door neighbor, *The Rural New Yorker*, had the unkindness in a late issue to criticise our horticultural journals, characterizing one as having a "shabby dress;" another as "departing glory."

We expected a greater cordiality from their editor than this. It should be the aim of such a journal as theirs to help those, who are doing what they are able, with kindly assistance, rather than to give vent to private criticisms.

Were we to repeat the criticisms we have heard of the *Rural*, perhaps we might only have to use the very same words quoted above by their own editor as applying to us, but we will not do it.

THE HORTICULTURIST has no enemies, we hope to make none, but in truth, it will be generally admitted that for the past three years THE HORTICULTURIST has been filled with more practical, useful and interesting matter, than for any ten years previous. It has been made in that time a financial success. Its illustrations have been more numerous and tasteful, and its appearance improved in many a tasteful way. Is there not more room, friend *Rural*, for friendly commendation than criticism, or don't you believe in helping those "who try to help themselves?" If you do not, our subscribers do, and the verdict seems to be from the new subscribers we are receiving, "We like THE HORTICULTURIST."

The Ladies' Floral Cabinet.

This new journal, started from our office with its first issue for December, is now increasing at the rate of 1,000 new subscribers per month, and has the germs of a popularity which will one day place it among the leading papers of the city. Some idea of the extent of its business may be gained from the fact that our mails are now averaging at the rate of over 20,000 letters per year.

Covering Strawberry Plants during the Winter.

Evergreen boughs, straw or refuse brush; anything of this nature will be found a valuable protection. Few plants are lost from exposure to severe cold; it prevents any undue pressure by the snow, and also injurious freezing and thawing of the ground. It will be generally found that where any plants are mulched, the ground underneath is but slightly frozen.

Daphne for Winter Flowering.

A correspondent of the *Country Gentleman* recommends increased attention to the *Daphne Odora*. "For two months they have been diffusing their fragrance through my apartments, and probably will continue to do so for several weeks more. Receiving almost no care at all, they flourish in spite of neglect; sometimes without water for more than a week, and the thermometer ranging from sixty down to the freezing point; still they maintain their equanimity and bloom on. Slight frost does not materially injure them, neither is sunshine indispensable. My plants, about three feet high, have been without a glance of sun during the blooming season. In fact the common mistake is too much care in their management, especially in regard to heat. The air of a sitting-room is too warm for the health of this plant, if long confined to it. A low temperature is requisite, while at the same time it prolongs the blooming season several weeks."

The Lawrence Pear.

Parker Earle says that the two most profitable pears in the West are Lawrence and Bartlett, placing the Lawrence ahead of even the latter. The principal trouble with the former is, that it is universally grown and prices must by and by be low. The Lawrence is very hardy, holds its foliage long, and is a good but not extravagant bearer. It is an excellent keeper, never rots at the core, medium in size, and handsome in appearance. The only drawback is its early starting in spring, and sometimes the partial destruction of its crops by late frost.

Cheap Greenhouses.

Charles Barnard says, in *The Evening Post*, that greenhouses are much more frequently found attached to private dwellings in England than here. An iron greenhouse, 12 feet long and 10 feet high, can be bought, glass and all, for \$25. Dwellings that only command a rent of \$200, have little greenhouses as part of the regular fixtures.

A Big Grape Vine.

There is a Scuppernong grape vine growing on an island in the Albemarle Sound, on the eastern coast of North Carolina which has run across the island in different directions; and the vines leading from the original parent stock have stretched across nine acres of land, from tree to tree. Twenty barrels of wine have been made from it in one season.

No one knows the age of this vine, but it is supposed to have been in existence when Sir Walter Raleigh first visited the country in 1584. (See Wyley's History of North Carolina, page 344.)—*Rural Southerner*.

The Best Lawn Mower.

We do not know the name of either maker or agent, but every one this year agrees in unanimous favorable testimony for The Philadelphia. It is easy, does not clog nor get out of order. The best we have yet seen.

Pæonies.

The *Canada Farmer* says, it is a wonder that these showy, sweet-scented flowers are not more generally planted all over the country in every garden and door-yard. They are perfectly hardy, requiring not even the slightest protection, flourish in any well drained soil, and need no further care than a little enriching from the compost heap every year, and to be kept clear of grass and weeds. There is also a considerable variety, not that all the names to be found in the catalogues are distinct enough to be all desirable in a choice collection, but by a perusal of the descriptions any one can make a selection of half a dozen that will be distinct and pleasing.

Planting Asparagus.

The *Tribune* states, that strong plants of one year's growth are the best for garden or field planting. In case it is found at the close of the first season's growth, that the plants are small and weak, then they should be left in the seed-bed until they are two years old. But under no circumstances should roots over two years old be transplanted in a permanent bed. Old roots are only good for forcing in hot-beds. Fall planting of asparagus is suitable and perhaps better than spring, in localities south of Maryland. Asparagus roots may be kept out of the ground four or five weeks safely, before planting, by packing in damp moss or saw dust.

The Doyenne Boussock Pear.

We have for many years believed that this would become one of the most popular varieties of the pear. The tree is one of the most vigorous and healthy of growers, whether as standard or dwarf, and it holds its leaves remarkably well. It grows as freely on the quince as the Louise Bonne de Jersey or Angouleme. The fruit is

handsome and regular in form, and when picked a week or more before maturity and house-ripened, it reaches a high excellence. It is one of the most productive with us of all pears. There is but one drawback on its value for market—it ripens with the Bartlett and with the later peaches. Alongside the Bartlett, it has commonly sold at a much lower price, although quite equal in quality, and better to many palates. In order to simplify and render the name more easily mastered by the workmen who cultivate and gather it, we have commonly termed it simply Boussock—but even here it proved too hard a name, as our man could only remember enough to call it “Bamboose.”—*Country Gent.*

Training the Chinese Wistaria.

This is a beautiful runner, popular everywhere, it is made to run on trellises—grows very rapidly—and its long racemes of blue flowers are beautiful. Florists have discovered a process to make this plant grow in tree form so as to support itself. This is the plan: “A young plant is first trained to a stake six feet high. When it reaches the top it is headed off. The second year, or as soon as it is stiff enough, the stake may be taken away, and the young plant support itself. It will never make running branches after this, as it expends itself in the effort to overcome gravitation. A beautiful umbrella head is formed, with hundreds of drooping flowers in spring.”—*Ex.*

Propagating Raspberries.

In answer to an inquiry relative to the increase of raspberries set out last spring, the *Small Fruit Recorder* says, “that black caps should have the tips nipped by midsummer, and when these branch out and form tips that are bare of leaves from four to six inches, bury these tips in the ground at an angle of forty-five degrees, and before winter they will form fine roots. This layering or burying is generally done in August and September. The sucker raspberries will furnish new plants the second year, springing up in the form of suckers, which may be taken up in autumn for setting out.

Propagating Currants.

As soon as the leaves ripen, cut off the new growth and make cuttings about six inches long. Set them in rows fifteen inches apart and two inches in the rows. Just as winter sets in, cover them over with coarse litter—taking it off in spring, and keeping them well hoed, and by fall they will have large fine roots.—*Recorder.*

Parsons Mignonette.

This proves not to be a new variety after all, and the English growers are complaining in their Horticultural journals how fearfully they have been sold. It has no merit over the large flowered white Mignonette, save that it is a more vigorous grower.

My Summer in a Garden.

Charles Dudley Warner's new book has been received with favor in England, as appears by this notice in the *Gardener's Chronicle*:

“Those of our readers who can enjoy genuine humor should get hold of a little book lately issued, entitled *My Summer in a Garden*, by Charles Dudley Warner. The difficulties and delights of American gardening, the former comprising boys, birds, insects, and weeds, are amusingly depicted. The weeds which most exercised our author's patience are “Pussley” and “Snake-grass;” the former “a fat, ground-clinging, spreading, greasy thing, and the most propagatious plant I know”—doubtless the *Portulacca oleracea*, an introduction from Europe; the latter probably our “Twitch,” or “Couch” (*Triticum repens*), a grass with “a slender, beautiful stalk, and when you cut it down, or pull up a long root of it, you fancy it is got rid of; but in a day or two it will come up in the same spot in half a dozen vigorous blades. Cutting down and pulling up is what it thrives on. Extermination

rather helps it. If you follow a slender white root, it will be found to run under the ground until it meets another slender white root; and you will soon unearth a network of them, with a knot somewhere, sending out dozens of sharp-pointed, healthy shoots, every joint prepared to be an independent life and plant."

Growing Asparagus.

The culture of asparagus was lately the subject of discussion by the members of the Horticultural Society in Dessau; and among the views expressed were the following:

That the old method of burying large quantities of manure deep under the surface was objectionable, since asparagus does not derive its nourishment from a great depth, and the plants often become too often embedded when the thick substratum of manure collapses by rotting. The preference often given to old plants, in making selections for a new bed, was also considered a mistake. Plants become sickly and less vigorous in the seed bed, so as to be much more sensitive to the change in transplanting. Southern exposure, shelter from cold winds, a porous soil, and the total absence of trees, was recommended as essential conditions to the highest success. The soil is to be turned to the depth of from two to three feet, and then manured to the depth of one foot. This is most conveniently done in autumn, during dry weather. Spring is the best time for planting, and the best direction of the trenches is "walled up," as is termed, between the rows, and upon these other vegetables may be cultivated while the asparagus bed is young; but they are eventually absorbed in filling up the ditch around and between the plants. Well rotted manure, or suitable compost, is combined with the earth of the walls for this purpose. Besides giving constant attention to stirring the soil and weeding, the young plants need to be watered regularly whenever the state of the weather requires it.

Viburnum Plicatum.

The Rural Home says:—This new Viburnum or Snowball promises to be of great value. It produces in great profusion, large trusses of pure white flowers. The trusses are very compact and the individual flowers have great substance. It has been but little propagated as yet, and consequently is not known. It may be regarded as a great acquisition to the list of flowering shrubs.

Profits of a Small Garden.

A gardener at Rochester owns a garden of 80 by 100 feet. His trees are twelve years old, and the fruit sold during this year is as follows:

5 bu. Shropshire Damson plums, from two trees, \$3 per bushel...	\$15 00
2 bu. mixed Plums, \$2 per bushel.....	4 00
1½ bu. Flemish Beauty Pear, \$3 per bushel.....	4 50
3 bbls. Louise Bonne, from four trees, \$7 per bbl.....	21 00
1½ bu. Beurre Giffard Pear.....	2 50
1 bu. Bartlett Pear.....	3 00
2 bu. Beurre d'Anjou Pear, \$4 per bushel.....	8 00
3 bu. Duchesse d'Angouleme, \$4 per bushel.....	12 00
	<hr/>
	\$70 00

Training Peach Trees Low.

A correspondent of the *Western Pomologist*, who writes from Buchanan county, Iowa, says that he never fails to have a good crop of peaches every year, by a simple process of protection which he employs. He cuts off the young tree, sixteen inches from the ground, and allows the limbs to shoot out on each side below, like the rods of an umbrella. By weights or stakes, he keeps them down in a horizontal

position, so that the stump is like the spokes of a wagon wheel lying upon the ground. About the middle of August he cuts back one-third, or one-half the new wood, with a pair of pruning shears, and late in the fall covers the whole with corn stalks. In this way the buds are saved.

Orange Growing in California.

The average yield per tree is set down as 1,500. If 1,000 oranges be assumed to each tree, however, and seventy trees be assumed to the acre, the product of 70,000 oranges results. Calculating that these sell at \$20 per thousand, the result of \$14,000 for an orchard of ten acres is given. Cutting off one-half to allow for all contingencies, \$7,000 still remains as the offspring of a single crop. The proceeds of a recent crop at Los Angeles are reported at \$20,000, while \$500 included the entire outlay due to pruning, taking care of the ground, and so forth.

Water-melons in the South.

An exchange says: The water-melon trade between Augusta, Ga., and the northern cities, is very large this season and very remunerative. Some small farmers who cultivate water-melons say that they can realize more from this crop, and with much less labor and outlay, than they could from a large cotton plantation. From the 3d to the 7th August, 9,362 were shipped to New York, and of this number 5,939 were sent in one day, on the 7th. During the same time, 5,907 melons were forwarded by the South Carolina railroad, at an average price of twenty-five cents each.

Strawberries at St. Joseph, Michigan.

The (St. Joseph) *Herald*, after a very careful collection of statistics gives the total shipments of strawberries from that place this season, as 24,878 bushels. The estimated receipts were \$74,634; the expenses—commissions, crates and boxes, picking and freight, are given at \$41,297.48, leaving \$33,336.52 net to producers. The shipments began May 28, and continued four weeks. The heaviest shipment was 2,769 bushels, on June 12. This is only an average of twelve cents per quart, rather small, we think.

Forcing Strawberries.

A. M. Purdy, of Palmyra, N. Y., states in his *Small Fruit Recorder*, that on the 27th day of May he picked fine ripe berries that were forced in the following manner: These strawberries were rooted last fall in the "Beecher" strawberry baskets, kept in a cold frame through the winter, and early this spring set around on the walls of our green house. We had ripe berries about the 15th of May. They ripened up nicely. Had we set them up close to the glass we would have ripened them fully two weeks earlier. We find the French, Wilson's Albany, Triomphe d' Gand, Agriculturist and Philadelphia, among the best for forcing purposes.

Lily of the Valley in Winter.

The Lily of the Valley may be forced into bloom in winter as readily as the Hyacinth. Select large, healthy clumps, and put them in good rich soil, and then place in a warm room, giving sufficient water to prevent drying, but not enough to cause a decay of roots. A box will answer, if pots cannot be obtained, and we are sure that those who are fond of house plants in winter, will be pleased with this little gem when in bloom; for its fragrance is not so powerful as to be offensive in a close room.—*Rural New Yorker.*

Changing the Colors of Flowers.

The *Mirror of Science* says, that a case is known of a yellow primrose, which, when planted in a rich soil, had the flowers changed to a brilliant purple. It also says, that charcoal adds great brilliancy to the colors of Dahlias, Roses and Petunias; carbonate of soda reddens pink hyacinths, and phosphate of soda changes the colors of many plants.

Horticultural Notes.

Killing Blackberry Bushes.

One of the editors of *The Rural New Yorker*, in answer to the question, how to kill Blackberry vines, says :

I have not only planted but killed out several acres of blackberry bushes during the last ten years, and have not found either a very troublesome task. Last summer I destroyed a plantation by simply mowing off the plants and thoroughly plowing up the roots. Not a plant lived, nor has a sucker appeared this season ; and I attribute my success more to the time of doing the work than to the manner or thoroughness. The time selected was immediately after gathering the fruit, *i. e.*, the first of August. The plants were then growing vigorously, and the stems and roots immature, consequently the cutting and plowing was too much even for a blackberry. This simple method is almost equally as certain in destroying noxious plants of other species, but the time must be varied to correspond with the growth of the plant, as some mature early and others late. Always select a time when the plants are making or just finishing their most vigorous growth.

Pears.

The editor of the *Germantown Telegraph* comments on some pears he has seen fruiting. The *Beurre d'Anjou* he pronounces only a third rate pear. The *Rutter* he finds flavorless, acid and dry, and altogether worthless. The *Howell* has disappointed him so far, but he gives it time for a longer trial. The *Kirtland* rots easily but he rather likes it. *Manning's Elizabeth* is prolific, but in quality is not first rate, being handsome as a fruit ; however it makes a good market variety. The earliest pear is the *Doyenne d'Ete*, and though small he would not be without it. He does not consider the *Dearborn* as of much account. The *Julienne* is an excellent summer variety, of good quality, prolific and early. *Bloodgood* is the best of all his early pears. The *Giffard* is excellent in every sense as an autumn fruit. The *Potts pear* turns out to be the *Glout Morceau*, and it is excellent. So is the *Lawrence* as a late fruit.

Editor's Remarks.—Something wrong with the Major's orchard. The *d'Anjou* is superb almost everywhere else, and we say ditto to the *Howell*. Guess the Major has been eating gooseberry syrup.

The Ransom Curculio Trap.

M. B. Bateham says that he found the "Ransom Curculio Trap" of more service in catching the squash bug than the curculio. He lays two or three bits of shingle or thin board near the hill of plants, the ground being a little rough so that the bugs can crawl under them, as they will do every cool night, and on turning over the covers early in the morning, the bugs can easily be crushed with the sole of the boot, or with a flat stick.

The Chinese Primrose.

The *Country Gentleman* says : "There are some plants that will grow and blossom with but little care or attention, but with others, constant care is needful. Among the former class, the Chinese primrose takes front rank. It will continue in bloom from nine to ten months out of twelve ; and its pure white, or rich pink and crimson flowers are a great ornament. So tenacious of life and health is the root, that if planted in cotton-wool, soaked with water, and not allowed to wither for want of moisture, it will put forth its tender blossoms for months. It can be thus planted in a china vase or saucer, or in a glass dish, making a lovely ornament for a parlor or boudoir table. The cost of it is small—a twenty cent scrip will procure a fine plant, and its flowers are a certainty."

Strawberry Plants for House Culture.

One of the editors of the *Rural New Yorker* recommends these as great novelties: "The little Bush Alpines are really pretty plants for house culture, and in a moderately low temperature will produce fruit continuously. I have taken up and potted a good number of plants to-day, of both the red and white Bush Alpine, and expect that their fruit and flowers will, during the coming winter, amply repay the little care required in culture. I should think that those ladies who take so much delight in window plants, would try the Alpine strawberries. The varieties that produce runners are very pretty when grown in hanging baskets, for the long pendant stems produce a bunch of leaves, flowers and fruit at every joint, and I am sure the whole appearance of the plant is equal, if not superior, in elegance to the Wandering Jew, (*Saxifraga sarmentosa*,) *Tradescantia*, and scores of similar plants that are generally cultivated for such purposes."

The Grafton Mineral Fertilizer.

The disposition of the public to put some confidence in this was considerably disturbed by the attack of Dr. Nichols upon it—who declared it useless as a fertilizer. From its analysis, we should judge it to contain very little fertilizing material, but somehow statements will creep out here and there from a few cultivators, generally flower gardeners, who find it has some efficacy in repelling insects. We should not allude to it at all if it were not for the fact that, if it is found to have some value as an insect exterminator, we will be delighted to hear of the triumph of *practice over science*, for even scientific men get caught occasionally. This powder was used by a correspondent of the *Small Fruit Recorder*, in North Carolina—applying it to strawberries and cabbages—in the latter case a *single application* was sufficient to make the cabbage louse *depart*, and in keeping away squash and cucumber beetles, he found it quite as efficacious as gypsum.

Charles Downing Strawberry.

A fruit grower in Iowa finds this the best out of eight other best varieties he could select.

No. 19 Seedling Grape.

This new variety of grape is stated by Elwanger and Barry to bear enormously, and to be entirely free from mildew.

How to Pack Roots Around Trees.

When we transplant our trees we should pack the earth well around the roots. They were used to it in the nursery or where they stood, and they require at least the same solid grasp. The way we pack, even if we do it pretty closely, still falls far short of the original pressure. We can only pack close enough by pounding; other pressure is not sufficient. Do it carefully, but do it firmly. Have the roots all spread out evenly and naturally—a strained root will not thrive—and then apply the pressure. Of course, the firmer the soil is sifted and worked in among the roots, the better. If moist, the packing will be the more effectual. In his way your trees will have many advantages. They will withstand the wind and drouth, and even the rain better; there will not be that washing among the roots, making them even more loose than before, but they will resist even, to some extent, the penetration of the moisture in the solid bed in which they are established.—*Ex.*

Renovating Quince Trees.

I had in my garden several trees which for quite a number of years had never borne the value of one peck of fair quinces, and I had about made up my mind to destroy them, when a neighbor called on me and stated his had been in a similar condition until he took them in hand. First he trimmed out all dead and useless

wood. He then hoed and cleaned away all grass, etc., which tended to retard their growth, giving them clean cultivation. He then gave them a thorough manuring, with fresh horse manure, and from that time his trees had never failed to produce a full crop. I accordingly adopted his course to the letter, and so long as I continued this course had an abundant supply, and of the finest quality.—*Small Fruit Recorder.*

Curiosities of Horticulture.

The editor of the *Germantown Telegraph* has recently had sent him for examination by Mr. Preston T. C. West, of that city, a valuable old work published in London in 1596, which treats principally upon the arrangement and management of gardens, from which he publishes some extracts. We reproduce a few of them, and may at some other time publish others to show our readers the state of Horticulture in that early age:

"Of the Ordring and Care of the Strawberries.—The Strawberrie is accounted among those hearbs that grow in the fields of their owne accorde. And the Berries be much eaten at all men's tables in the sommer for the pleasantness of them, which for a more delight in eating they dresse with wine and sugar. The rehearsall of the fame of this hearb needeth not, seeing the same is known to all persons. And it aptly groweth in shadowey places and rather under the shadowe of other hearbes than alone. And the plantes set in gardens will grow unto the bigness of a mulberry, if the earth before in the beds be well dressed, and diligently tended of the gardener. But hearbe of itself continueth not above a yeare."

"Of the Ordring and Care of the Lavender.—Lavender is an hearbe sweet in smelling, and at this day growing in most gardens: of the which be two kinds, the one growing high, and sending forth a great savour, which, for it giveth no less savour than the Spike, is of the same named Spikenard; and the other, both in the largeness of the leafe, and savour, is lesser. And for that the same is occupied in baths, and in the washing of hands, for the sweetness of smell, therefore of most men, named the Lavender. Also the first is named the male, and the other the female, as sundry authors write. And now the Lavender joyeth to be set in an open and sunny place, and in stony earth, for so it prospereth the better."

How to Exterminate the Apple Tree Borer.

As soon as the middle of July examine carefully the trees at the base. Destroy the eggs of the borer, if any, by rubbing with a corn-cob. The presence of the borer may be determined by a depression of the bark, the color being pale and unnatural, and second by a round hole at the mouth of each depression about one-tenth of an inch in diameter, out of which may be seen protruding a substance resembling refuse tan bark. The course of the borer is usually spiral and just under the bark; at other times he penetrates or rather bores deep into the body, perhaps directly through the very heart of the tree. In the former case cut out the intruder with a sharp pen-knife, cutting away the bark as little as possible, and in the latter case follow up the same with a bent pointed wire. (If the object of your pursuit should cry out, "All we want is to be let alone," you can do so with safety, after giving him two or three attacks in the rear.) Cover all wounds with tar or grafting wax, after which bank up with dirt. If after the borer or borers are cut out, the tree becomes quite girdled, proceed as follows: With a sharp half-inch chisel make from six to ten incisions downward in the bark and wood, just below the girdle, and in a similar manner a corresponding number just above the girdle. Then from a vigorous tree cut several sprouts of the proper length, wedge-shaped at both ends, and fit the same in the incisions, thus forming a complete connection for the sap. Wax the points of contact, also the girdled portion, bank high with dirt, prune thoroughly, and the tree will come out all right. Still further, if the tree is not only girdled, but completely bored down, in such case save the more prominent sprout or sucker, if any, that may spring from any portion of the stub above the

point of grafting, and, if the roots are vigorous, the sprouts will grow with incredible rapidity, from two to three feet in a season. Lastly, if the tree, both root and branch, is completely destroyed by the borer, we can only say, apply to the nursery for a substitute, withal paying in the future good heed to poor Richard's maxim, as found at the head of this article.—*In Journal of the Farm.* O. A. PRATT.

The *Western Pomologist* says that for the west the Flemish Beauty is peculiarly fitted to a lightish soil, for the finest fruit grown in Iowa and Kansas has been grown on a light, sandy loam.

Fruits for the Southern States.

The following list is recommended by *The Southern Times and Planter*:

Apples.—The early Harvest commences to ripen early in June, and continues for three weeks. The tree is a good grower, and the apple eats well, but is not suited for marketing purposes.

The Red Astrachan is the handsomest early apple; rather acid, but a fine market apple; the tree is a very vigorous grower, but not an early bearer. This commences to ripen in May and continues six weeks.

For July, the Family, Horse and Julian are choice.

For August and September, we can very strongly recommend the Taunton and Junaluskee. The Tuscaloosa seedling is very good. The Taunton and Junaluskee are both early and regular bearers; both varieties have borne good crops *every year for the last five*.

For October, we recommend the Mangum and Kittageskee; the latter makes most beautiful and delicious preserves. As winter varieties, the Shockley Stevenson's and winter Stansill are first-class. The Stansill bears, with us, *every year*. These varieties will give a supply of fresh fruit throughout the year. A few of each of the summer varieties are sufficient in any orchard intended for family use. If planted for market, a larger proportion of the Red Astrachan and *Taunton* would be found profitable, excluding entirely those ripening in July.

We would advise, in either case, fully *two-thirds* of the orchard planted in the Shockley, which is undoubtedly *the apple* for the Cotton belt.

Pears.

Dwarf pear trees have done nothing with us. Of the standard, the following is a succession of pears, ripening from June till October, which we can recommend, from our own experience, as excellent and reliable:

Doyenne D'Ete.....	Ripe in June.
Belle Lucrative.....	" July and August.
Bartlett and St. Michael Archangel.....	" August and September.
Beurre Superfine and Duchesse D'Angouleme	" September.
Beurre Clairgeau and Glout Morceau	" October.

These are the only varieties which we can recommend very highly among those thoroughly tested by us.

The Beauty of the Cocoa Groves.

Of all the enchanting rural scenery which the traveller in tropical America witnesses, the cocoa grove is by far the most charming—surpassing in its singular beauty and variety of colors even the curious nutmeg groves, the tea bushes, the vegetable ivory palm trees, or the coffee plantations in full bloom.

The cocoa tree is the only one in all tropical countries whose branches, trunk and roots (as far as the latter protrude from the ground), are ever covered with small flowers, resembling those of the myrtle. Between these flowers are pendant, in distances of a foot or two, the large cocoa fruit, which have the size and shape of a

full-sized cucumber, when full grown, about ten inches long and three inches in diameter.

Each tree has these cucumber-like fruits in nearly all colors of the rainbow, from a pale green to a sulphur yellow, from the most brilliant orange to the brightest scarlet, and from purple to the brightest violet, and thence to dark brown, the color of maturity. Kept dark and shaded, the effect is magical, and resembles a garden illuminated after dark with colored lamps, the trees being in straight lines, and at convenient distances.

These fruits are called "mazurcas" by the Spaniards, and contain in rows the rose-colored seeds of full cocoa size in a whitish pulp, the whole contents agreeable to the palate, and of a flavor resembling apples.—*N. Y. Mercantile Journal*.

How to Preserve Flowers During the Winter.

A writer to the *Oneida Circular* thus tells how he did it :

The Cannas, Dahlias, Erythrinas, Madeira vines, Salvias, etc., had to be carefully arranged in a long bin or box, and covered with sand or dry earth. The different varieties of Gladiolus had to be placed in so many separate boxes or bags. The Lily and Amaryllis bulbs do best when potted in suitable soil, and placed on a dry shelf, to await the time for bringing them forward for summer flowering. Tuberose and Colocasias are to be covered with dry sand, and so kept until it is time to prepare them for the hot-bed or forcing-pit. Then the bulbs of the Tigridias must be placed in bags and hung out of reach of rats and mice. Tritomas do well in large pots or tubs, but require to be sprinkled with water now and then to keep them in a semi-growing state. There is in the cellar, as you know, an almost endless array of pots and tubs containing Abutilons, Aloes, Cactus, Fuchsias, Geraniums, Hydrangeas, Oleanders, Pampas Grass, Roses, Yuccas, and other things too numerous to mention. These are to be cared for and given occasional sprinklings of water. Cactus and aloes, however, need little or no watering during the winter. Then, as the gallery of our large hall is well lighted, and warmed with steam, we have filled the windows with plants, in quantity sufficient to adorn one or more conservatories. There are Abutilons, Acanthus, Aloysia citriodora or Lemon Verbena, Callas, Coleus in variety, Fuchsias, Geraniums, Heliotropes, Ivies, Lycopodias, and Ferns, Maurandias, Oleanders, Petunias, Roses, Salvias, Tropæolums, Verbenas, etc., etc. These require frequent turnings, so as to expose all parts of the plants equally to the sunlight; otherwise they will grow one-sided and unsymmetrical. Roses, Rose Geraniums, Verbenas, etc., require frequent washings to free them from aphids, or green fly. They all require systematic watering and frequent sprinkling, and some slight protection in extreme cold weather. Occasionally re-pottings are necessary, especially towards spring, when the severity of winter has passed, and they have begun to grow somewhat vigorously.

Destroying the Apple Moth.

We have tried three methods: first, with considerable success, that of catching the moth in bottles of sweetened water hung in the trees; but the process of refilling the bottles from time to time proved rather tedious, to say nothing of the expense; secondly, the plan, now under trial, of pasturing sheep and calves in the orchard; thirdly, on a limited scale and with fair success, that of placing woolen rags in the crotches and main branches of the trees. This method was tried the past season, and promises to be not only the most practicable, but also the most successful. Old carpets were made use of, cut in pieces nine inches square, folded two or three times. Into its folds the larva of the insect crawls and spins its cocoon, preparatory to undergoing its change to a perfect insect. The experiment has proved that a large majority of the worms leave the apple before it drops, even in the fore part of the season, and descend to the crotch of the tree, or perhaps to the ground, in order to find a place of concealment under the loose bark. These rags

offer to the insects a very acceptable and cozy retreat, of which they readily avail themselves; and all that is necessary for their certain destruction is to pass along once in ten or twelve days during the season and crush the larvæ with the hand, replacing the cloth; or, what would be still better and more expeditious, run the cloth through a pair of rollers carried for the purpose. In case of large trees that have many branches, it might be well to place two or three cloths in a tree. No very systematic course was taken in making the experiment; but in every instance, when examined, from two to ten larvæ were found in the folds of a single cloth. Late in the season, after the apples had been gathered, on examining the cloths in three dwarf apple-trees that had not been disturbed for a number of days, eight, fifteen and twenty-one, respectively, were found to have taken up quarters for the winter in the folds of the cloths. These cloths, if saved, may be used for more than one season.

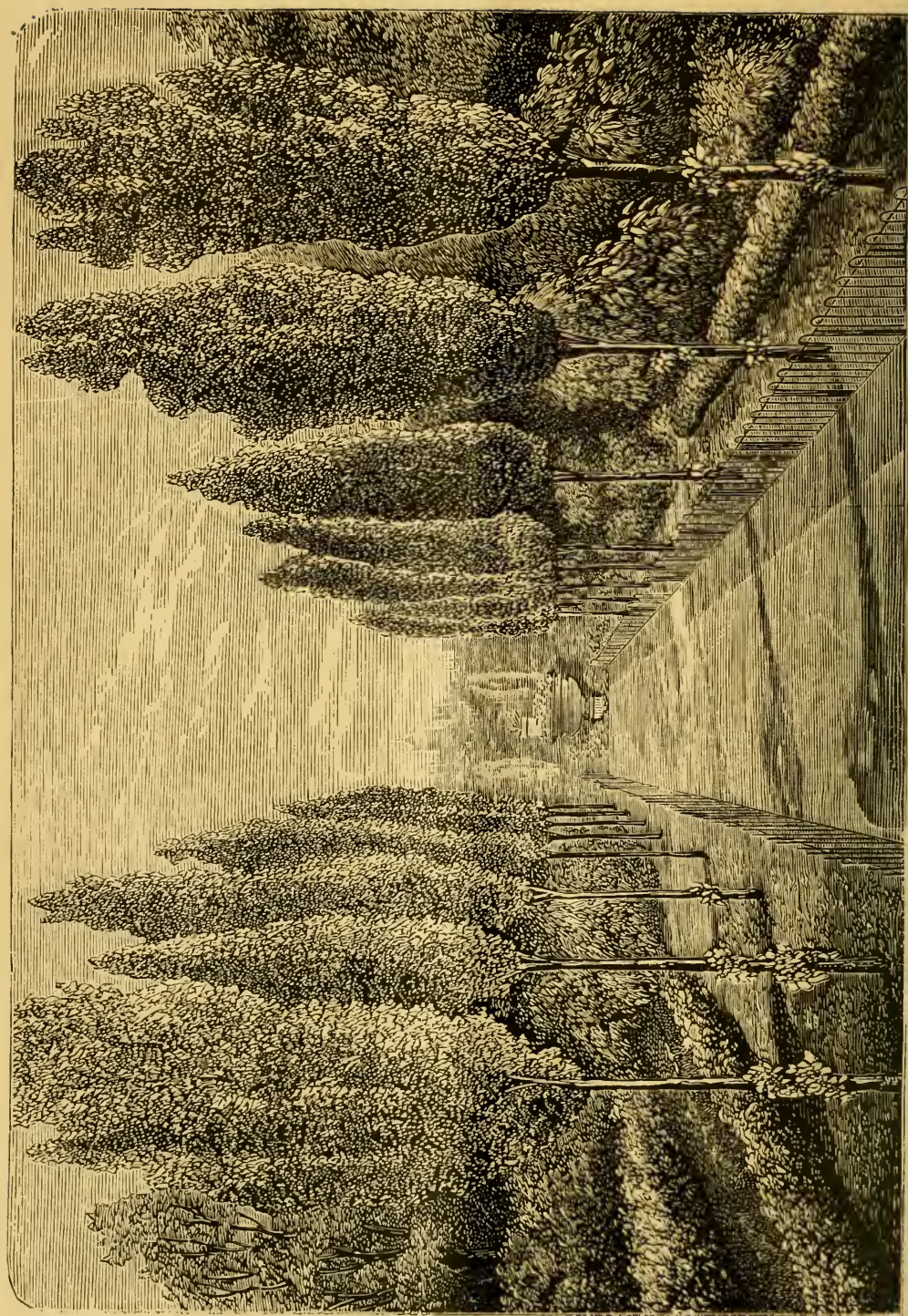
The result of our experiment with this third method convinces us that by following it up faithfully a great reduction of the pest may be effected, and, consequently, larger and fairer crops of fruit be realized.—*Henry Thacher in Oneida Circular.*

What it Costs to Experiment.

"A few years since, when the grape fever was raging throughout the country, I caught the infection and planted a large number of the *recommended* varieties. Ten years of trial has shown me their worthlessness (at least in my grounds), and I ordered the greater part grubbed up and thrown into the fire, and the costly trellis posts used for fence. In passing through the vineyard many of my old enthusiastic feelings—in regard to new sorts were brought to mind—yes, and the prices I was led to pay for them. Here was a Winchester marked for destruction. I dispatched my three dollars for a little vest-pocket edition of it as soon as the advertisement appeared in the *Rural New Yorker*. How carefully I planted and cared for it, but how miserably I have been repaid for my labor. And here is a row of Rogers' Hybrids—three vines of each of some twenty varieties; cost me two dollars *per straw*, for the gardeners used to sell plants that were more like small straws than vines; and now shall I discard them all, or try my patience another ten years? Some years they bear a good crop of fair fruit, but there is not one of them equal to the Concord with me. 'Dig them up, John, and we will save hoeing and training.' The next two rows are Iona and Israella, fifty vines, cost three dollars each—\$150—planted seven years ago, carefully cultivated, bone-dusted, limed, pondretted and trained on approved systems; but the entire returns for seven years would not amount to as many pounds of good ripe fruit. Marked for the grub-ax!

"Next row Miller's seedlings. Purchased before named, in order to be a little ahead of my neighbors; received a letter two years after from the originator, saying that there were none among the number worth naming. 'Dig.' And here are five rows, two hundred feet long, consisting of various sorts, such as Allen's Hybrid, Rebecca, Clinton, White King, Claret, Mary, Spotted Globe, Diana, Black Hawk, Lydia Raabe, Lehigh, and fifty similar varieties, which cost me from \$1 to \$5 per vine, to say nothing of cultivation and trellises and the only return from them was the pleasure of anticipation at the time of purchase, and the grim satisfaction of seeing the vines burn to-day.

"And now, what have I left? Why, simply Concord, Delaware, Hartford, and a few of the later novelties such as Walter, Senasqua, Croton, Arnold's Hybrids, and a few others which are still on propagation grounds only. Of course, I am willing to admit that Iona is a success in a few localities, and so are some of Rogers' Hybrids; but this is a local result of local experience the same as mine, and each must report accordingly. I have certainly learned a valuable lesson, and shall store it away in my memory as a costly keepsake."—*Daily Rural Life, in Rural New Yorker.*



Floral Avenue in Grounds of Zoological Gardens, London.



VOL. 27.

MARCH, 1872.

NO. 309.

What Strawberries to Plant.

BY DR. F. M. HEXAMER.

EVERY Spring I receive scores of letters with the inquiry, what variety of Strawberry do you advise to plant? and invariably do I have to answer that no one variety suits all tastes, nor all soils and climates. The bearing season of any one variety is hardly longer than two weeks, so that to extend the luxury of Strawberries as long as possible it requires at least three varieties, under any circumstances.

From many years careful observation at our own Fruit farm, as well as from the results of fruit growing on soils different from ours, I recommend for general cultivation the following select list of Strawberries, as best adapted to the widest extent of territory and the different systems of cultivation.

For heavy soil.

Nicanor.

Wilson; Charles Downing.

Triomphe de Gand; Jucunda.

Napoleon III.

Early.

Medium or main crop.

Late.

Latest.

For light soil.

Downer.

Wilson; Charles Downing.

Seth Boyden; Green Prolific.

Kentucky.

All of these varieties are valuable for the market, on account of their firmness. In the home garden, however, where the hardness of the fruit is of but secondary importance, I would not omit the exquisitely aromatic "Black Defiance" and the pineapple flavored "Lennig's White."

On the judicious selection of varieties and the quality of the plants depends much of the success of the Strawberry bed, but in many cases, much more on the right treatment of the plants when received from the nursery. Spring is the best time for

planting. From the thawing of the ground till the opening of the blossoms the planting may be done with more safety than at any other season of the year. When the field or bed has been well prepared, by deep plowing or spading and thorough pulverization of the soil with intermixing of plenty of manure, the plants should be set out as soon as received. If, however, the ground is not ready, or for some other cause the planting has to be deferred, open the box or package *at once*. The plants may have become heated, and, as the temperature in the package increases, a few hours' delay may destroy their vitality. If the plants are found to be warm, open each bundle, take the plants apart and put them between cool, damp moss in a cellar. In this way they may be left for one or two days without injury, but when the planting to the permanent bed can not be done before several days, they should be heeled in carefully. With a spade or a hoe make a trench as deep as the roots of the plants are long, place the plants, with their roots straitened, along side of each other against one bank of the trench, and cover the roots about one inch deep with fine, pulverized soil, press this firmly down and fill up to the level. The soil must be well up and around the crowns of the plants, without covering them. Should the ground be very dry, a free watering in the evening will be beneficial. Thus plants may be left, without risk, for weeks, if necessary, but of course the sooner they are transferred to the permanent bed the better.

A Belgian Nursery-Man.

A CORRESPONDENT of the *Gardener's Chronicle* gives the following description of his visit to the famous establishment of the Messrs. Verschaffelt in Ghent, Belgium, and of what he saw there. It will be of interest to lovers of fine plants :

"Ghent, with its 200 horticultural establishments, must be the very paradise of nurserymen, and yet it does not seem by any means to have any exceptional advantages. What can have induced so many to form their establishments there more than at Antwerp or Brussels? Yet so it is, and with a light and sandy soil, with a climate which must be cold and damp in winter, the Ghent nurserymen have managed to gain for themselves a reputation which is world wide, and a success in some special form of culture in which they are well-nigh unapproachable. Where, for instance, are Camellias done as they are here? I have seen, doubtless, as fine plants elsewhere, but for quantity, neatness, and for vigor of growth, especially in small plants, we in vain look elsewhere for a parallel. It is from hence that those multitudes of small plants, which fill our London nurseries and Covent Garden in the season, come—'innocents,' too often, not indeed 'born to bloom unseen, and waste their sweetness on the desert air,' but doomed to the gaze of the company in crowded gas-lighted drawing-rooms, and then to perish—for hardy as the Camellia is, it will not bear all this; and then in Palms, in Cycads, in Agaves, where can we find anything like the amount of success or cultivation that we can in the Ghent establishments.

"Among the many 'Vans' and 'Vers,' the Van Houttes, Van Geerts, Verveane, Vandercruyssens, etc., who throng the list of Ghent nurserymen, that of Verschaffelt has long been honorably distinguished (has now passed into the hands of M. Linden);

and that of M. Jean Verschaffelt, of which I now write, are amongst the foremost of their class, and both at the great International Exhibition of 1866, and during the present season, the latter has shown the capabilities and resources of his establishment to the frequenters of the London shows, while the genial character of its proprietor has won for him many friends when he has come amongst us. His establishment, while not on so extensive a scale as Van Houtte's or his cousin's, is yet one of considerable magnitude, and the cultures to which he especially devotes himself are carried on with great care and energy, and he is continually importing from Mexico, Africa, Brazil, and other countries large specimens of many of them. Orchids are not much cultivated in Belgium, excepting at M. Linden's—whose collection of 1,260 species is perhaps unrivalled—to the same extent as in England. There are not so many amateurs, and the plants are, generally speaking, small, so that we should in vain look for such Orchid-houses as Veitch's, Williams', Bull's, or Rollison's; but M. Verschaffelt grows his at a moderate temperature, so that plants from here are the more likely to thrive than when grown in a higher temperature; but in his Orchid-house I noticed a few remarkable things. There was, for instance, a new plant from Guiana, somewhat in appearance like an *Alocasia*, but with leaves of such a substance that they might be very easily taken for leather, while the leaf-stalks were like those leathery stalks of seaweed so common on our shores; the genus of the plant does not seem as yet to be known. Here also were quantities of the curious *Tillandsia argentea*: some placed on the dead trunks of Tree Ferns looked remarkably well—in fact it seems most accommodating, for M. Verschaffelt assured me he had it in all sorts of way, in *Sphagnum*, peat, on blocks of wood, on Tree Ferns, and never lost a plant, while he has got a large number of young plants; so that rootlets though they be, they multiply freely. Here also were good plants of *Plumieria bicolor*, an Apocynaceous plant, white with yellow center, very free flowering, and likely to be very useful as an ornamental plant. In another house I noticed some magnificent plants of the fine *Crinum amabile*. one of those fine old plants which novelties have elbowed out of the way; also a very remarkable *Hemerocallis*, with variegated foliage, one half of the leaf white, the other green, and with so curiously formed a growth, that looking at the back of the plant it seemed to be all white, and in the front all green. There were also some grand plants of *Musa Enséte*, a plant so valuable for subtropical gardening from its showy appearance and rapidity of growth.

“But the greater portion of the houses here are devoted to the growth of Palms, Cycads, Tree Ferns, and similar ornamental foliage plants, which are so much more valued on the Continent than with us, and magnificent indeed are some of the plants; while Palms for the million is no idle word, for here we see pots of *Chamærops excelsa* with 50 seedling plants for sale at 40 fr.; *Phoenix dactylifera*, the same; while *Latania borbonica*, *Corypha australis*, *Chamærops Fortunei*, were to be had by the thousand. Of *Zamias*, there were some magnificent specimens, both home-grown and imported specimens; amongst the most remarkable were *Altensteini*, *cycadæfolia*, *horrida*, and the very striking *Lehmanni*. I do not wonder at the admiration which these plants excite amongst the Continental horticulturists, and do very much wonder that those who have large conservatories with us do not grow them more than they

do. Of Tree Ferns, there were some fine specimens of *Cibotium princeps*, *Dicksonia antarctica*, *Cyathea dealbata*, and *dealbata excelsa*, although some of the large plants had just been sent away. The collection of Agaves is wonderful. M. Verschaffelt cultivates upwards of 100 species, and they are to be seen in all sizes, from the tiny seedling plant to large specimens. Of the latter he has some, such as *dentata*, for which he asks £40; of *horrida* (well named) an unique example; *Kerchovei* and *Kerchovei macrodonta*, very large; *dealbata nana*, very remarkable; *latacineta*, a dwarf species, a bright lustrous green, largely pencilled with white; *Nissoni*, with a large, deep, golden-yellow line in the center of the leaves; *Verschaffeltii*, of which there is a large quantity of imported plants, and one with golden-yellow bands on the leaves; while *pulverulents*, *filifera*, *univittata*, *marginata*, and other fine varieties, were to be seen in all sizes. Amongst them was a plant which had all the appearance at first of an Agave, but which was, in truth, *Echeveria agavoides*—one that is destined, if subtropical gardening holds its own with us, to be brought into extensive use. There are a couple of plants of it at Kew, and at another place on the Continent, but otherwise it is confined to this establishment. It was found impossible to propagate it in any way, but M. Verschaffelt received a quantity of seed from Mexico, and he has been enabled to raise a considerable quantity of young plants; out-of-doors it comes with a beautiful rosy margin, and I cannot but think that it will be a very interesting addition to our succulents for summer gardening.

“Passing to the out-of-door department, I saw a large quantity of those beautiful standard and pyramidal Bays, Portugal Laurels, and others for which the Ghent nurserymen are so famous, and which they do so well. Some plants here are worth 600*f*. the pair, and for terraces, for public places, where a regular form is desirable, they are admirably adapted. The standard Orange trees many saw at Kensington, not long ago, and although much admired, they did not find, as the Agaves did, purchasers. There were immense quantities of *Dracæna indivisa*, Camellias, of all sizes, and other cultures of a Belgian nursery. There were, also, some very beautiful varieties of the variegated form of *Phormium tenax*; two were especially noticeable—*Cookii*, dwarf, very pretty, and distinctly margined with brown; and one unnamed variety, with a splendid band of a rosy-yellow hue. There was, also, a variegated variety of *Gnaphalium lanatum*, which will be useful as a bedding plant; it is very free and very pretty. While speaking of the out-door department, I should say that M. Verschaffelt speaks in very warm terms of *Delphinium nudicaule*, introduced by Mr. Thompson, of Ipswich, considering it to be one of the best introductions of late years for the herbaceous border.

“I have thus endeavored to indicate some of the more remarkable features of this establishment, feeling, of course, that it is impossible in such a sketch to do anything like justice to its resources, and the value of its cultures; but, at the same time, desirous of informing those who have not visited Ghent, of some of those special cultures for which it has become famous.”

Notes of a Trip to California and Oregon.

II.

BY J. A. DONALDSON.

(NOTE.—This article is continued from former article published in *Tilton's Journal of Horticulture*.)

AFTER securing "quarters" in a hotel, our first business was to visit the markets. Calling at several places where fruit is sold, we found on enquiry, that it was rather early in the season for Oregon fruits; and that the chief supply of pears, peaches, plums and grapes were from California. Apples raised in the vicinity were in plentiful supply, and peaches from east of the Cascade mountains were just beginning to come in.

A stranger cannot walk very far through the streets of Portland, without coming to the conclusion that Oregon is a favorable country for fruit; for wherever fruit trees are to be seen, whether large or small, they are loaded with fruit. On the grounds surrounding the residence of Hon. H. W. Corbett, we had an opportunity of examining a variety of fruits. Apple trees, ten years planted, and growing in clover sod, were bearing profusely, yet very thrifty, some of them making shoots two and a half feet long.

Among the varieties grown, are the Baldwin, Roxbury Russett, Esopus Spitzenberg, Fall Pippin and Green Newtown Pippin. The latter, which is generally so imperfect and scabby at the East, was very smooth and fair. Mr. Corbett informed us that they were always so. Those three pests of the fruit-grower, the Codlin moth, Curculio and peach-borer, are unknown here. The pear trees, both dwarf and standard, were full of fruit. A Duchess d'Angouleme, on pear stock, planted at the same time the apple trees were, was full of beautiful specimens, many of which Mr. C. said would weigh two pounds when mature. The varieties of plums grown, are mostly Washington, Jefferson and Imperial Gage. Notwithstanding that the trees were all overloaded they were making a good growth, and the fruit was of good size and quality.

The few peach trees on his grounds were healthy and thrifty, but bearing but very little. A serrate Early York had on a few specimens, finely colored and of extra size for the variety. The climate of the Willamette valley is not congenial to the peach. East of the Cascade Mountain in Eastern Oregon, they are cultivated successfully. On an arbor were Isabella, Hartford Prolific and Concord grape vines, with remarkably healthy foliage, and bearing heavily.

Mr. Corbett called our attention to some very fine elm-trees which he had brought over the Panama route ten years before, when only a few inches high, that are now from eight to ten inches in diameter.

The people here speak highly of the success of the sweet cherry. The trees are healthy and bear immense crops of fine fruit, free of course from worms, where the Curculio does not exist. We saw in bottles, specimens of two new varieties which originated in Western Oregon. One, a red cherry, was called the Royal Ann; the other was black, and named Black Republican. These cherries are highly spoken of, particularly the latter. A branch of the Royal Ann, twenty-two inches long, and weighing five pounds, was brought to Portland this Summer and photographed. It showed the branch to be a mass of fruit. Some friends who preceded us saw the

original branch, and confirm the above statement. Both of these cherries were introduced, and, we believe, originated by Mr. Lewelling, of Milwaukee, a few miles south of Portland.

We spent part of a day with Mr. Charles C. Coe, who resides twenty-five miles east of the Cascades in Eastern Oregon, on the Columbia river. Mr. Coe has quite an extensive orchard, planted by his father sixteen years before. His apple orchard was bearing good crops, and the fruit, considering the trees were in a clover field, was very fine. Among the varieties of pears are Vicar of Winkfield, Winter Nelis, Seckel, Bartlett and White Doyenne. Every tree was bending to the ground with fruit, although very little care or culture was given them. They were remarkably vigorous, and the fruit large and perfectly free from all imperfection; the White Doyenne as fair and smooth as any. Mr. Coe informed us that they were never troubled with blight, or cracking of the fruit. The Seckels were very fine; the largest we ever saw. But few varieties of peaches are cultivated in Mr. Coe's orchard. The Early Crawford was just beginning to ripen, and were being shipped to Portland. They were of good size and fine quality. A very fine seedling originated on the place, the fruit of which is deep yellow, large and beautiful, of very good quality; and ripening with the Early Crawford. A number of varieties of plums are grown, all heavily loaded with fine fruit.

Apricots and nectarines, Mr. C. informed us, do well in Eastern Oregon. Growing in the orchard is a California fig-tree bearing a moderate crop. It had been killed down for several winters, but the last two winters it had escaped injury, without protection. In the door-yard is an English walnut tree planted some ten or twelve years ago, very vigorous, but not bearing. The body is twelve inches in diameter, and the top about thirty feet across.

Mr. Coe's mother takes a great interest in the culture of flowers. By means of irrigation her flowering plants and shrubs are kept through the dry weather in a remarkably fresh and vigorous condition. Her perpetual rose bushes were the finest we ever saw.

A Giant of Battles, which was over six feet high, and *bushy* from the ground up, was blooming finely.

Early in the morning we bid adieu to this kind hearted and hospitable family, and took steamer for Portland. Quite a number of passengers on board had been up to view the Walla-Walla country, and all spoke highly of it.

Portland, Oregon, August 25, 1871.

AFTER long and patient experiment, a California horticulturist discovered that petroleum would kill the borer that infests the orchards of the Golden State. The fact was made known far and wide; and many fruit growers availed themselves of the valuable discovery. By their experiments the further fact was established that petroleum not only killed the borer, but the tree also.

Dwarf Apples.

BY P. C. REYNOLDS.

THE culture of Dwarf Apples has received much less attention in this country, than that of Dwarf Pears.

This is probably owing to the fact that they are a *cheaper* fruit, suited rather to the field than the garden. Yet there is a class, rapidly increasing, who seek by dwelling in the suburbs, or vicinities of villages and cities, to realize the advantages of both town and country.

To meet the wants of this class, I consider the Dwarf Apple especially adapted. As a feature of the landscape, an orchard of dwarf apple trees is very attractive, whether covered with leaves, blossoms, or fruit.

The stocks used to bud the apple on, to dwarf its growth, are of French origin, and bear small, indifferent fruit. The variety called Paradise, produces much the smaller tree, and is generally preferred.

The Doucain grows trees requiring about half as much space as a standard—are nearly as long coming into bearing—and do not live half as long, consequently offer but few inducements for planting them.

The Paradise is decidedly Dwarf, scarcely more than a bush, but just the thing for garden culture.

Propagation of Stocks.

Stocks of both varieties are propagated in nurseries, like the Quince, by cuttings, and stools or offsets.

The desired varieties of apples are *budded* into these stocks, just as pears are into the quince.

Soil and Culture.

Although Dwarf Apples do not require so strong a soil as pears, yet they should have a good garden soil, well drained, and deeply worked, and should be kept clean and mellow with hoe and cultivator, all through the season.

For a few years the tops should be shortened in, during suspension of growth, until a round, strong, compact head is formed, capable of sustaining a fair crop of fruit, after which an annual thinning out of sprouts and superfluous branches will be all that is necessary. I have no doubt that many of the failures of Dwarf Apple trees may be attributed to a lack of judicious pruning.

Varieties.

As *ornament* is almost as much an object in a dwarf apple garden as utility, the most beautiful varieties, that color up, and hang a long time upon the tree, should have preference. The following list embraces the most desirable varieties of this description: Red Astrachan, Alexander, Gravenstein, Fameuse, Twenty-Ounce, Baldwin, Canada Red, Jonathan, Hubbardston's Nonesuch, Wagener, King of Tompkins County.

As the same kind of fruit grows larger and fairer on dwarf than standard trees, the reader can imagine how the bright, showy red apples, named, must look on trees smaller than full grown quince bushes.

I think I never saw a handsomer fruit show than a garden of trees on Paradise stock, loaded with the Alexander apple.

Distance Apart to Plant.

For garden culture, where land is scarce, four by six feet apart, which would be at the rate of about eighteen hundred trees per acre, would be admissible. Where land is plentier, for orchard culture, perhaps eight by eight feet would be better, requiring about six hundred and eighty trees per acre.

Time of Coming into Bearing.

On Paradise stocks they commence bearing very young, often showing fruit in the nursery rows the third year from the bud. If transplanted two years from bud, they frequently begin to bear the next year. Of course, no sensible culturist would suffer them to bear more than three or four specimens while so young, and would be watchful for several years to see that they did not carry more fruit than they were able to sustain.

How Much do they Produce?

Full grown trees, ten or twelve years old, have yielded in the grounds of Ellwanger and Barry, in this city, a barrel of fruit to a tree. It will be seen that if a whole acre of six hundred and eighty trees would produce like that, the yield would be *enormous*, far exceeding an acre of the best orchards of standard trees, but somehow we can never get a whole acre of any kind of fruit to yield in proportion to a few favorable trees. A dwarf orchard, transplanted three years, might be expected to yield from six to a dozen specimens to a tree, and to increase for a dozen years, when from a peck to a bushel to a tree in a well managed orchard might reasonably be expected. For the first twenty years, an acre of dwarfs would probably yield a considerable more fruit than an acre of standards, after which they would begin to fail, and at the end of twenty-five years from transplanting, would not bear enough to pay for cumbering the ground.

Does it Pay?

Finally, how can we answer the universal Yankee question—"does it pay?" There are two views to be taken of this question. 1. Does it pay as a *business* investment. 2. Does it pay in that wider sense of yielding such a return in beauty, in enjoyment, in gratification as shall satisfy the planter that his money has been well expended. In the latter sense, I am well satisfied that it does pay. There is a gratification of inestimable value, in growing trees, shrubs, and flowers around your own home, and in eating of fruits of your own production, fresh from the trees that grow them. As enough of the finest of apples can be grown in quite a small garden of dwarfs, to supply an ordinary family, most men would be satisfied with the return they would receive for their money.

In determining whether it would pay as a business investment, we are to take into account—1. The much greater cost of planting an acre with dwarfs than standards. At the usual distance of planting standards—two rods each way—it only requires forty tree to an acre, which would cost about eight dollars.

If we should use six hundred and eighty dwarfs, at say fifteen cents each, they would amount to one hundred and two dollars. The cost of planting six hundred and eighty would be at least ten times as much as planting the forty.

2. The greater expense of cultivating and taking care of the greater number of dwarfs.

3. The loss of the use of the soil. With rows of trees two rods apart each way, for the first six years after planting, the loss in yield of corn, potatoes, or other *hoed* crops, need not average more than twenty-five per cent; while with rows of dwarfs eight feet apart, the loss must be from fifty to seventy-five per cent.

4. The fact that dwarfs are not more than half as long lived as the standards.

As an offset to all this, is the consideration that an orchard of dwarfs would probably bear enough fruit to pay the cost of trees, planting, cultivation, and rent of land, before standards began to bear, and for several years thereafter yield a much larger per cent on the investment.

A great argument, not yet mentioned, in favor of planting dwarf orchards, is the advantage that small, low trees would give us, in fighting the numerous insect enemies that depredate either upon the leaf or fruit of the apple, and that threaten, unless overcome, the ultimate destruction of that most valuable of fruits.

Rochester, N. Y.

The Clematis.

BY AL FRESCO.

EDITOR HORTICULTURIST:—I seldom clothe my thoughts in the drapery of ink; because I entertain the opinion that it is wrong to occupy valuable space in your columns with descriptions of, and cultural directions regarding, common and familiar things. But I cannot refrain from joining you in advocating the claims of the clematis. I esteem several of the varieties, as the most ornamental hardy plants in cultivation; and trust that they will become popularized. Our nurserymen are much to blame that they do not propagate these plants and bring them within the reach of all. Cultivators of flowering plants annually purchase a number of petunias, verbenas, and other bedding plants, to be destroyed by the next winter, and neglect hardy and beautiful plants like the clematis; forgetting that "a thing of beauty is a joy forever."

The first season that *Clematis Jackmani* and *C. Rubro-violacea* were offered for sale, I imported them, and have cultivated them since—hence have reason to believe that I can speak from experience.

As the varieties of the clematis I shall recommend to your readers are climbing plants, I deem it necessary to refer to my support for these floral gems. I have not seen my favorite trellis adopted by others; and as I find it to answer my purposes, I shall give a brief description of it. In my opinion, it is more simple, appropriate, and better adapted to the requirements of many climbing plants, than the clumsy and inappropriate trellises made by carpenters. Inhabitants of cities may not find the principal constituent of the trellis around the corner; but it can be obtained in most rural districts.

To construct my trellis, I obtained a chestnut post three feet six inches long, and six inches square. One end of the post I beveled off on three sides for a distance of six inches. The foundation piece being provided, I accompanied my man Friday to a hedge-row, and selected a well branched cedar bush seven feet high. This was cut and taken home. The top and side branches were shortened to the extent of six

inches, and the small interior spray was removed ; after which the bark was carefully removed from every branch—an easy thing in April or May. One side of the butt end of the cedar was removed, so as to make a flat surface of six inches in length. The flattened surface of the cedar received a heavy coat of white lead, to prevent decay ; and with three tenpenny nails it was securely fastened to the chestnut post. The cedar was allowed to dry for a couple of weeks, when it received a coat of lead-colored paint, followed by a coat of dark green deadened by a little umber. As a support for any medium growing climber, nothing, in my opinion, can equal this trellis for simplicity, adaptability and durability, if favored with an occasional coat of paint. When the climber is clothed with foliage the support is scarcely visible, and during the winter months it does not present the heavy appearance which characterizes trellises generally adopted.

To exhibit my floral pets to the greatest advantage, I selected a conspicuous position on my lawn, and marked out a circle four feet in diameter. The earth was removed to a depth of three feet, and the chestnut post was placed in the center. As the subsoil was a tenacious clay, to ensure perfect drainage, I placed in the bottom six inches of rubble and brick rubbish, and filled to within six inches of the surface with chopped sod and decayed manure, and finished by a covering of loamy soil.

Around one trellis, I planted *Clematis Jackmani* ; *C. rubro-violacea* ; *C. Standishii* ; *C. Sophie*, and *C. azurea grandiflora*. Around another, *C. Jackmani*, *C. Flammula*, *C. Lanuginosa* and *C. Veitchii*. The first summer I was rewarded with dozens of flowers, but the next and succeeding seasons, my favorites presented a gorgeous display of exquisitely tinted flowers, from satiny white to the richest purple. The different varieties bloom at different periods, and thus a succession of flowers is kept up for a lengthened period. I make it a rule to cultivate the most ornamental plants, and nothing in my garden gave me as much satisfaction, or attracted so much attention from visitors or passers-by, as my cedar bushes, decorated with hundreds of the exquisitely tinted flowers of the different varieties of the Clematis.

With the exception of *Lanuginosa* and *Flammula*, I have found all the varieties referred to, perfectly hardy. *Lanuginosa* was killed to the ground, but made a luxuriant growth from the root, and in August favored me with a number of its gorgeous flowers varying from four to five inches in diameter. During the last Summer, I commenced experimenting with the Clematis as a bedding plant, and, thus far, have been pleased with the result. In the front of my library window I have a conspicuous bed, in the center of which is a bush of *Magnolia Soulangeana*, and, around it, I have planted a number of varieties of the Clematis. They have been carefully pegged down, and, thus far, answer all my expectations.

To those who wish to cultivate one of the most ornamental tribe of plants, I say, plant the Clematis—particularly *Jackmani*, *rubro-violacea*, *Standishii*, and *azurea grandiflora*. If a suitable trellis is not at-hand, plant them against a fence, the side of a house, or in front of a verandah. If stones and stumps are obtainable, make a pyramid of them on the lawn or grass plot, and plant several varieties around the margin. By the middle of the second summer, the stumps and stones will be hidden by foliage and flowers.

The Clematis has no tendrils to enable it to cling to a trellis or other support, but

an All-wise Providence has furnished it with the means of clinging to surrounding objects. The stem of the leaf coils itself around any small object, and I have found light copper wire admirably adapted to its wants. To aid the clematis in its earlier efforts to climb, I place pegs in the ground near each plant, and from the pegs lead copper wire to the branches of the cedar brush.

The planters of the Clematis must protect his pets from the ignorant and half-fledged jobbing gardeners, who infest every locality. "Let me alone severely" should be the motto. They require no pruning. The rule should be, train, and furnish support when necessary, but never use the knife unless to cut off dead wood and seed as soon as formed. The branches of the Clematis are easily broken, and should be handled with care.

The Clematis will grow in any good garden soil, but more luxuriantly for generous treatment. My rule is, to do my floral favorites justice, and I receive a corresponding reward. With regard to the propagation of the Clematis, I can only say, that those who attempt to propagate them, must have patience. Cuttings of the young wood taken off in Spring, and placed in a shady situation, will probably root in three or four months. They can be propagated by layers, if the young wood in the beginning of June is covered by three inches of soil. Your lady readers would find it interesting (if they have patience enough) to raise the Clematis from seed. By sowing the seed of hybrids *Jackmanii* and *rubro-violacea*, they might raise some beautiful varieties. I referred to patience; and I will illustrate my position. On the tenth of April, 1871, I sowed a box full of Clematis seed, and kept the box in a shady portion of my vinery during the Summer. Upon the appearance of frost, I protected the box with a cold frame placed in the vinery. To-day, January 8th, '72, I examined the seed, and find that nearly every one has made a root of about two inches in length. About April, I expect my box to present me with hundreds of young plants, which I shall transplant to the open border, and wait patiently for the results of my experiment. As soon as ripe, the seed can be sown in a pot, or box, and kept in a shady place until frost, and then removed to a cellar—watering, when necessary, and about April or May of the next season, the seedling will appear, and can be transplanted.

Keep the Clematis before your readers, as most of the varieties are more than worthy of extended cultivation. But, I had better stop, or your readers will conclude that an acute attack of Clematis on the brain has affected me.

A Floral Avenue.

OUR frontispiece this month represents a sketch of a floral Avenue in Regent's Park, London, the chief walk or promenade from the gardens of the Zoölogical Society.

The scene as laid in the Engraving, is one of great beauty. On all sides it is hemmed in with dense masses of verdure, while directly in front is a vase of flowers; then beyond, a hedge and copse of densely planted trees, just low enough to permit a glance over them at the towers of a distant church. Such an Avenue as this, the most fashionable resort of visitors, is valuable for its opportunities to educate the

public taste and knowledge of our most attractive trees and shrubs. The style of arrangement of this walk is plain and distinct. All attempts at the gardenesque style of ornamentation (i. e., circular) is necessarily avoided, and we have severe straight lines of trees and flowering shrubs, and back of these, hedges, and then belts of trees; while the strip of green grass in front by the fence, gives an openness and clearness to the scene.

In this illustration, use has been made mostly of English favorite trees, which it would hardly be expected of us Americans to copy, as we have trees of our own far more attractive.

The chief trees in the foreground are the Poplars (*P. fastigiata*), which, when young, with their succulent vigorous branches and large green leaves, are very good for such a decorative purpose, but they soon outgrow the proportion that would harmonize in such a situation, and while gaining in height, lose in breadth and symmetry. We would use here in this country the Maples, or Elms, or even the Horse Chesnut, which in time of bloom, is a vast bouquet of itself.

Just at the back end of the strip of grass, is planted a continuous row of some prettily blooming shrub, of low growth, say not over two to three feet: the *Deutzias*, for instance. Then, up the turf embankment is another row of blooming shrubs, say the *Weigela* or *Forsythia*; and immediately at the rear of this, is a tall hedge of *Arbor Vitæ*, or *Spruce*, either *Hemlock* or *Norway*.

The trees used so freely in the background of this scene, are English variegated Oaks, Hollies, Robinias, and here and there are specimens of the Thorns, Cypress, Cedar and Yew. Such a style of rural decoration as this is pleasing, yet very inexpensive. One charm is, that it compasses a picturesque scene into a comparatively small space. The eye is not obliged to wander over a vast park-like space, to distinguish and admire a row of shrubs or an evergreen hedge, but if they are close at hand, with nothing to destroy the effect, they become objects of a thousandfold greater attraction than ever. Narrow strips of land cannot be embellished in a better style than this, and although regular and symmetrized, yet there is nothing to offend the eye with a precise or unnecessary formality.

Testimony of Michaux to the "Silver Maple."

IN no part of the United States is it more multiplied than in the Western country, and nowhere is its vegetation more luxuriant than on the banks of the Ohio. There, sometimes alone and sometimes mingled with the willow, which is found along these waters, it contributes singularly, by its magnificent foliage, to the embellishment of the scene. The brilliant white of the leaves beneath, forms a striking contrast with the bright green above; and the alternate reflection of the two surfaces in the water, heightening the beauty of this wonderful moving mirror, aids in forming an enchanting picture, which, during my long excursions in a canoe in these regions of solitude and science, I contemplated with unwearied admiration.

Editorial Note.—There is a popular impression that in consequence of its rapid growth it is not a long lived tree, nor its wood of much value. Will any of our active readers give information about these points?

The Vicar of Winkfield Pear.

BY PARKER EARLE.

I AM just finding out how it may be possible for certain Eastern gentlemen of critical tastes, to praise the Vicar somewhat highly, for quality. A portion of my crop of that variety has, the past season, been really excellent. And it is the first time I have ever tasted specimens, about which I could use a better adjective than "tolerable." Among all my Western pear friends, the Vicar has been uniformly mentioned with scorn. And the coarse, sour, green persimmon-flavored things—how they have deserved it! And I, with my large block of Vicars, planted because authority I revered had highly endorsed them, haven't I been laughed at?

But, the past season, I have been challenging the wonder of my friends, by giving them tastes of this much-berated pear, about which they say: "Why, this is very much like a Howell;" and "this is absolutely better than a Bartlett," and so on; and these praises have been worthy. I cannot explain it, without this will do it. My trees, having grown too fast when young, and been severely injured by the winter, were seeded to clover to check growth, and to help them recover the health of their foliage; both of which points were gained. Most of these trees for two years past have made but slight growth—perhaps an average of three inches—have filled up with fruit buds, and in all respects seem like old trees. The fruit on them has been only of medium size, but it has much of it been very good. But a portion of this block is on ground that had been heavily manured before planting, and here the trees have continued to grow freely, notwithstanding their winter freezing and the effect of the clover, and the fruit borne on them was very large and handsome, but coarse, astringent, and uneatable—regular Western Vicars! These differing conditions of growth in the trees, seem to offer the only explanation of the contrast in flavors. The good pears were borne on virtually old trees; the others, on those young and fast growing. Is there something in this? And may I hope to find this sometimes a good table pear in some succeeding years, and that sober age will develop mild and sweet virtues in the Vicar, of which its succulent and robust youth gives no promise?

South Pass, Ill., Jan., 1872.

The Planting of Door Yards and Small Grounds with Ornamental Trees, Shrubs and Evergreens.

An Address before the Rural Club of New York, December 7, 1871. By Josiah Hoopes, President Pennsylvania Fruit Growers' Association.

(CONTINUED FROM FEBRUARY NUMBER.)

THERE are four genera belonging to the great natural order Coniferæ, that are furnished with deciduous leaves and tall spiral tops, all well adapted for the center or background of groups—the Larch family, of which the European species is preferable; the *Salisburia* or Japan Gingko, with curious yet pretty fan-shaped foliage; the *Deciduous Cypress*, with light feathery leaves; and the *Glyptostrobus*, or Weeping Cypress, having unusually graceful foliage and pendant branchlets.

Weeping Trees.

Every place should have at least one drooping tree, as much for its intrinsic beauty, as for the effect it produces when grown near other forms. For this purpose the

Weeping Beech possesses an individuality peculiarly its own. Not so pretentious perhaps as the preceding, but with a graceful drooping of the more slender branches, the Weeping Linden stands next in the list. Where they will flourish, the Weeping Elms and Weeping Mountain Ash are very handsome; and the old-fashioned Weeping Willow, especially when in the vicinity of water, is often a valuable assistant for creating a beautiful picture. For small-sized weepers, I would suggest the following, all of which are useful, and in fact indispensable to the landscape-gardener: The Thorn, Grandidentata Poplar, Kilmarnock Willow, Dwarf Cherry, Sophora, and Beech. The drooping varieties of the common Ash are stiff and formal in outline, yet often attractive from their very oddity.

Autumn Color of Trees.

A feature often overlooked in American gardens is the massing of trees that are beautiful in the autumn. Most places can be improved by a little group of these brightly tinted species, and for this purpose I would name for the background the Scarlet Oak (*Quercus coccinea*), dazzling in its scarlet dress; the Sour Gum (*Nyssa multiflora*), with the deepest shade of crimson; the Red Maple (*Acer rubrum*), gay with yellow, red, and orange, and a Sassafras (*S. Officinale*), with golden yellow leaves. To the front I would place a White-flowering Dogwood (*Cornus Florida*), with its vivid shade of red; one or two common Sumachs (*Rhus glabra*), as bright as the petals of a crimson Pæony, with a few vines of the Green Briar (*Smilax rotundifolia*), of golden hue, and *Ampelopsis quinquefolia*, dyed with crimson, clambering over the whole. It is needless to add that the effect of such a blending of colors cannot be overrated. In leaving the deciduous trees, I would merely call your attention to the neglected family of oaks, although beyond the limits of such places as we are discussing to-night. For very large lawns no genus in the flora of the world can exceed their majesty of form, their picturesqueness of outline, nor their value for every purpose appertaining to the landscape art.

Evergreens.

We now arrive at the Evergreens, but as my time has nearly expired, I will hurriedly particularize a few of the most valuable for the majority of our country places, all of which will undoubtedly succeed in this vicinity. In the Spruce family, as not only the first in the genus, but among all cone-bearing trees, the Norway Spruce is fully entitled to consideration before any other. You all know it well, and knowing it, have nothing to say against it. It is a tree at once appropriate in all situations and for every purpose; hardy every where, and unexceptionably beautiful.

More formal in outline, but remarkably pleasing in color, the White Spruce stands next; and the Hemlock, with its charming drooping branchlets, curving in even circles to the ground, must never be neglected. In particular localities and exposures, *Abies Smithiana*, *A. Douglasii*, and *A. Menziesii* are among our handsome kinds. In Silver Firs, the *A. Nordmanniana* is, without doubt, the best hardy species known to us at present—always beautiful and healthy, we cannot well dispense with its presence; and almost as valuable, the *A. Pichta* ranks next. With varying success, although generally firm, I would name the rare *A. amabilis*, *A. grandis*, *A. nobilis*, and *A. Cephalonica*, while the Common Balsam Fir and European Silver Fir, are

unexceptionable in many grounds. The Pines must be used sparingly, as they are rather coarse for close proximity to the dwelling.

Among well-tested kinds, the Austrian, Cembran, White Lambert's and Scotch are all hardy, and deservedly admired, and where the *P. excelsa* is free from blight, I would add it to the list. A few of the newer species, such as *P. Ponderosa*, and *P. Massoniana* are promising to be valuable, but they require a more extended trial. The Cedar of Lebanon must not be forgotten, not alone for the many reminiscences connected with it by the sacred writers, but for its individual beauty on the lawn. The *Libocedrus decurrens*, *Cupressus Lawsoniana*, and *C. Nutkaensis*, notwithstanding they are almost unknown to cultivators, are surpassing our most sanguine expectations, where they have been tested.

Our American Arbor Vitæ, as well as the Siberian variety, are so well known and appreciated that it seems unnecessary to urge their claim to public notice. Low-growing conifers are of such vast importance to the landscape gardener in creating dense evergreen masses, that of latter years our arboriculturists have been eagerly gathering from every available source all which have proven distinct. I may not enumerate even those deemed worthy of notice, for the list would be too long, but I cannot resist the temptation to mention a few that are of sterling merit.

In the new genus *Retinispora*, a group formed of *obtusa* in the center, with *filicoides filifera*, *nana*, *leptoclada*, *squarrosa*, *plumosa*, and *plumosa aurea* placed around it, would be unsurpassed. They have proven hardy and very distinct. Among dwarf *Thujas*, I would suggest *pyramidalis* in the center, and massed with it, *compacta*, *conica densa*, *ericoides*, *globosa*, *Hoveyi*, *minima*, *nana* and *pumila*. *Biota* furnishes a striking group in *aurea*, *elegantissima*, *falcata*, *flagelliformis*, *pygmæa*, and *variegata*. A properly selected list of *Junipers* is always fine. The following will be found reliable :

How to Arrange Trees for Groups.

Place the Irish in the center and in close proximity, *Chinensis*, *Cracovica*, *Swedish oblonga*, *oxycedrus*, *rigida*, and *Sabina*; while on the extreme outer edge, the very low forms of *alpina*, *hemispharica*, *prostrata* and *squamata*, should complete the group. In this latitude the Yews are exceedingly beautiful. Around a tall specimen of the Irish, set the *adpressa*, *Canadensis*, *erecta*, *nana*, *Dovastoni*, *variegata aurea* and *cuspidata*. The Norway Spruce supplies us with a few very pretty dwarfs, the most available being *Clanbrasiliana*, *Gr. goryana*, and *pygmæa*. When these are grouped with *Pinus Mugho* and *Cephalotaxus*, the whole presents a handsome feature. With such an ample list as the foregoing, why need we further long for the Laurels of Old England. Our own are so hardy, so beautiful, and so easily grown, that we should not ask for more.

Before closing my remarks, permit me to say, that as a nation we are but yet in our horticultural infancy, although the present, teeming with such good results, offers a flattering prospect for the future. The introduction of rural cemeteries first opened the way to a more enlightened horticultural knowledge, and the modern parks have given it an impetus hitherto unknown. Incredible as it may appear to the gardeners of the Old World, we have shown them examples of landscape art which they, with all their years of experience, are forced to confess are almost unsurpassed.

With a justifiable pride, those who have devoted their leisure hours to inculcating the study of horticulture in the minds of others, now find that their labors are being appreciated; and that the seeds of good taste, which were sown in a kindly soil, have germinated beneath the warming influences of a generous and enlightened people, into a vigorous young plant, giving us an undeniable assurance that the mature tree will yield abundant good results. One of the most important auxiliaries in the work before us, are just such associations as you have inaugurated here, and no one can reasonably doubt they will prove to be blessings to the whole community at large, for I feel that you will be successful, too; for the social character of your meetings, with a desire to impart unto others the knowledge you have gained, will certainly prove as "bread cast upon the waters." I have no advice to give, save that of perseverance in future years; so that all our homes may be homes of taste, giving at all times preference to works of Nature over works of Art; for, in addition to beautifying our surroundings, such exert a happy influence in teaching us, in the words of old John Bartram, the pioneer botanist, "to look from Nature up to Nature's God."

Remarks of Frederick Law Olmstead.

I have for years regarded the speaker of the evening, Mr. Hoopes, as the man in this country who knows most of the habits and capabilities of ornamental trees, and especially such as are not deciduous. After listening to the very admirable paper which he has just read, I am the better prepared to respect his authority as unquestioned, especially in evergreens. Three of the ornamental evergreens to which he has alluded are my special admiration, the *abies nobilis*, *grandis*, and *amabilis*. When the object sought is picturesqueness, and especially on surfaces that are somewhat extensive and broken, so that striking sky outlines can be obtained, I know of no trees that can be so confidently recommended.

There is a pine on the Sierras that I have more than once endeavored to domesticate on our Eastern soils—the *Lambertiana*. I think I did not see it below an elevation of 4,000 feet, and often at 6,000. If I could get one of those giants of the mountains well rooted and prosperous in our Central Park it would in the end form a splendid picture. Growing to a height of 200 feet, and sometimes 250 feet, with a diameter at the base of from four to eight feet, it flings its stalwart and deep green branches horizontally against the sky. Somber and gigantic on its native slopes, if it could be made to consort with our smaller and tamer flora, what strength and dignity would it add to our landscapes! Another of those Western pines that would be a great addition to our plantations is the *Abies Williamsoni*. In size it does not loom up like some that have been named, but it is the most beautiful medium-sized evergreen that I know, and not the least attractive of the features it presents are the delicately-formed and rich purple cones. Some pines that are handsome when young are to be avoided as they grow dull and brassy in hue, as age comes upon them. Such, for instance, is the *Pinus Sabiniana*. I am very glad, gentlemen, that you have organized a Rural Club, where in a social and informal way, not without festivity, these charming topics of natural beauty and the decorations of our homes and our parks can be so intelligently discussed, and I wish you all prosperity and growth.

Remarks of Dr. Franklin Taylor.

I am afraid, Mr. Chairman, you have made a mistake in calling me up. I find myself in a group of scholars and botanists, and their talk of trees is sometimes quite beyond me. I hear of pines or firs, some of which are grand, others noble, and still another sort that are amiable. Why, Mr. Chairman, all those great towering, self-sustained monarchs of the wilderness are grand to me; the word noble seems to fit every big tree of the forest or the grove. Amiable! yes, all the growths of thickets, and dell, and hillside are lovely; and they make the soul that loves them itself beautiful and strong. Sometimes when I visit this great roaring metropolis I naturally wonder what you, who stay here all the time, should know of firs and pines, and rhododendrons—what you should know of farming. But when I go from the crowded mart and the all-night glare of newspaper offices, and see your bit of greenery up there toward Harlem, your little patch of 800 acres redeemed from chaos and bare rocks, and dirty goats and rickety cabins, and made the grand beauty-spot of the Continent, I am convinced that some of you know something about trees and grass, and flowers. We of the staid Quaker City have one advantage of you in fostering a love of these beautiful rural things. Our blood is more agricultural. Generations ago our sober fathers, whose garb was not gay and whose speech was plain, instilled in our minds a reverence for the life of the farmer as the purest, the most just and beneficent of all lives. In colonial days we had a Humphrey Marshall, one of the warmest lovers of nature that ever pruned an orchard or planted a grove. He made a collection that was quite wonderful for those days of living flora, and his garden and arboretum stood there on the Brandywine Hills for a generation, every tree a mute but constant plea for this noble art of rural decoration of which you are talking to-night.

Something has been said of the associations that twine around uncommon and beautiful plants. Some have power to transport us in fancy to great distances. If Mr. Olmstead succeeds in getting some of those mighty growths of the snowy mountains to prosper in your park, how quaint and charming will it seem to the traveler from the other verge of the Continent, to see his giants nodding over the Atlantic wave line. It is a little remarkable that the river which parts Pennsylvania from your neighbor State of Jersey, also divides the flora that is new and alive from a wonderful fossilized flora that we have filed away in the somber crypts of our coal mines. When I see one of those calamities I am transported by its curious feathery leaves now stamped in jet, not to California, but to strange geologic epochs, and I ask for the imagination of a Hugh Miller to paint for me the sluggish oceans, that soaked a continent of mud, and the tropical air, and all the weird conditions under which such forests were produced, and the wilder cataclases by which they were submerged and held in a dead-lock of stone, to be the light and the strength of the coming generations of men. But I am in danger of talking geology instead of dendrology, which is the order of the evening; and I will close by saying that some four years from now we hope to welcome you and all good New-Yorkers to a celebration in a Park near our city, to which we hope the progressive men of our time will come by millions to see illustrations of what a hundred years of Republican independence have wrought upon this Continent.

Among the Flowers; or, Gardening for Ladies.

BY ANNA G. HALE.

VII. 2

Ornamental Grasses.

THE flowers of some species of grass are exceedingly beautiful. Lily and rose, violet and daisy are not more lovely than they, after their kind, when, arrayed in purple and gold, at the dawn of their maturity they glitter in the sunlight as if bestud with the wealth of Golconda. It is true, we need almost microscopic vision to distinguish calyx and corolla, stamen and anther of the tiny blossoms, that are so fragile as to wither nearly to nothingness when severed from the parent stem at the height of their beauty. But, taken collectively, as they grow, in spikelets, thyrses, or panicles of floescence, their general effect is charming—from its suggestions of unassuming and undeveloped loveliness. And if the stalks are cut with a careful hand at that auspicious moment just before the glumes unclose, and tenderly hidden from rough breezes and too fervid sunbeams, they will unfold that beauty, and we may possess it in all its attitudes and motions of grace, drooping or swaying, or waving, for an indefinite period.

The seed-vessels of many species, in their curious conformations and convolutions are also objects of interest to observant eyes; while the seeds and seed appendages of yet others—grains as of molten gold—links of silver—scimitars of burnished steel; and velvet tiaras, scintillous as with diamond dust—shining sheathes, as of imperial satin-downy plumes of prismatic splendor—furnish them with ravishing delight.

These are only the humble grasses of the meadow and the wayside, which we too often pass unnoticed—"born to blush unseen," even at our very door. And there are others yet more beautiful, which florists have considered worthy of high cultivation. They have styled them "ornamental grasses," and given them a place among garden flowers. These are mostly of foreign extraction, are obtainable at flower-stores in a dried state, and dyed, also, generally; for European horticulturists, to supply the demand for them from dealers in this country, as well as to accommodate their own florists, raise them in large quantities, and dye them various colors—they easily take any common dye.

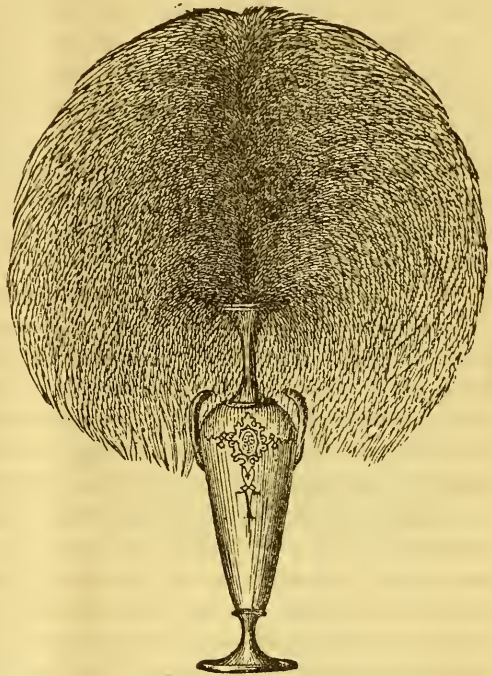
The most elegant arrangements of ornamental grasses are seen in France and England. - As decorations for parlors and reception-rooms, to grace the dining-table at festivals, or in the celebration of rural *fetes* they are much used. The more delicate and feathery arts serve as ladies' head-dresses. Of these the lightest is *Stipa*—the feather-grass—whose seed-plumes resemble the feathers of the bird-of-paradise; they have a fine effect drooping over dark hair. Our engraving represents a vase filled with these exquisite plumes. Their natural color is a delicate buff-yellow,

handsome enough as it is naturally; but for variety they are dyed and can be procured in all shades.

Stipa-pennata, and a newer variety, *S. elegantissima*, are very desirable; their seeds can be purchased where flower-seeds are bought. The feather-grass requires care (but its beauty is sufficient recompense)—care in planting, in growing, in gathering, in keeping. It is considered a biennial; but it blooms the first year if started early in the house. Those who would have this grass in perfection will provide good garden soil in the autumn, and keep it unimproved, within doors, till January. Then, in pots resting in saucers that hold water, the saucers sitting where the heat shall be regular

and of a somewhat high temperature—seventy or seventy-five—(near a furnace or stove is a good situation), sow the seeds; or, rather, lay them on the soil (which should be as moist as newly-turned earth)

and sift over them more soil to the depth of the length of the seed. The soil in the pots must not be watered—the saucers must be kept filled with water. Three or four weeks may elapse before green shoots appear; sometimes they are seen sooner. When they are an inch high they may be placed in the sunshine, but at the first signs of wilting must be removed to the shade. In May the young plants may be set out-of doors, in a bed, three feet apart, where they can have plenty of sun. They will need frequent watering—at night. When the seed is setting it must be watched, lest it take flight—for even a gentle breeze will disperse it when matured. Just as soon as the plumes can be easily plucked, take them by their stems and tie a dozen or so in a bunch, being careful not to bend or break them; and set them in a vase or some other vessel that will allow them to droop gracefully without crowding. After a few days take a number of these bunches and by means of a slender cord tie them around a stick to make a bouquet of the above form. Begin with three or four bunches at the top, then arrange a row half an inch below those, and so on, till you have nearly covered the stick and have thus made an elegantly formed bouquet.



If this grass is to be sent any distance, or is to be kept from view, the bunches can be piled one above the other, or even the whole bouquet can be laid straight, and kept without injury in a linen case of this sort. This method is

especially necessary when other grasses are casually placed with it, as by contact with them the plumes are often torn. Feather-grass shows its beauty best by itself or as the outline of other grasses—its extreme delicacy forbidding intimate companions of a rougher nature.

Agrostis nebulosa—hair-grass—is a very delicate species, considered by some the most elegant of ornamental grasses. It grows well in the garden. *Gynierium argenteum*—pampas-grass—with its large, full, feathery spike, makes an elegant show. It does not bloom till its second year, and must be kept covered with dead leaves through the winter. *Erianthus Ravennæ*, a new ornamental grass, is said to be as beautiful as pampas-grass, which it resembles. *Erianthus alopecuroides*, a native grass, growing in damp pine woods in New Jersey and in Illinois, is a fine species. This is commonly called wooly-beard-grass.

Avena sterilis—the animated oat—is a desirable grass for bouquets; so also is *Briza maxima*—the English shaking-grass. Both are easily grown in the garden. *Briza media*—quaking-grass—is our native species; has a more delicately formed flower than *B. maxima*. Grows in damp pastures, in Massachusetts and Pennsylvania. Should be gathered in July. *Glyceria canadensis*—rattlesnake-grass—is another elegant native grass, resembling *Briza*, except that its spikelets of flowers are drooping. It is found abundantly in boggy meadows and by the side of ditches. *G. elongata*—sometimes called *Poa elongata*—a desirable species for bouquets, but less graceful in habit than *G. canadensis*, grows in wet woods. *Agrostis scabra*—hairgrass—is another elegant native species. Common in dry, rocky places. Especially desirable with the foregoing species.

Poa annua—the low spear-grass, *Poa laxa*—a delicate purple species, *P. alrodes*—green, *P. serotina*—purple, and *P. pratensis*—meadow grass, are all common, roadside or field grasses, which, if gathered early and dried separately, are fine additions to any bouquet. Then we have *Bromus secalinus*—chess-grass, *Sporobolus cryptandrus*—dropseed-grass, both beautiful, found in sandy soil; *Bromus* most frequently on waste lands. The sedges, too, with their brown or chestnut-colored velvet flowers, are a handsome contrast to the grasses proper. *Scirpus planifolius*—the bulrush of moist woods, *Eriophorum gracile*—the chestnut-colored cotton-grass, *E. polystachyon*—white cotton-grass, and many others worthy of a place in any collection.

The cultivated grains—wheat, rye, oats, and barley—are all handsome, and should be obtained, if possible, for increasing the varieties of form. Oats are especially graceful, grouping with the lighter grasses admirably.

Of the cultivated ornamental grasses, *Lagurus ovatus*, hare's tail grass, should have had mention before. It is quite pretty, with showy heads—though the plant is of low growth, one foot only in height—and flourishes without trouble in the garden; but should be planted early. In the annexed cut, representing a grass bouquet, it has conspicuous place.

There are many other species of ornamental grass, but these are the most desirable. In their several varieties of form and habit they comprise an excellent assortment. Capable of adding lightness and grace, when freshly gathered, to any bouquet of garden flowers—the cultivated grasses when in a state of growth contributing

not a little to the appearance of the flowering plants in their vicinity—and when dry easily wrought into a great number of beautiful combinations.

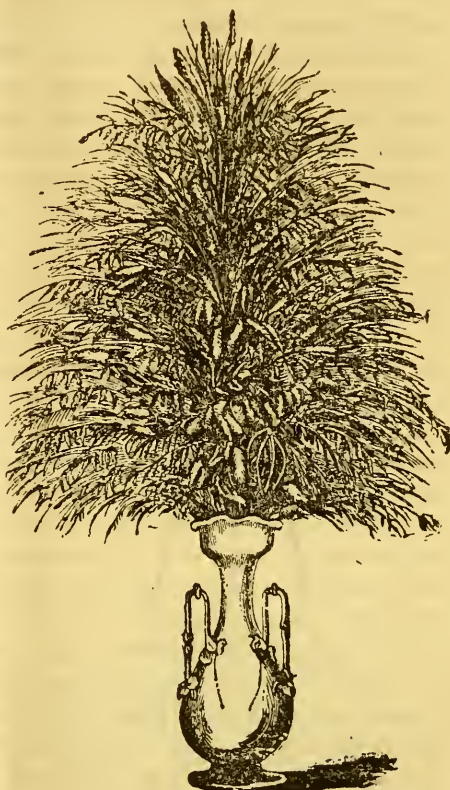
Grass-flowers should be plucked—the longer the stems the better—before their spikelets are fully spread. Care must be taken in gathering, and afterward, that the finer blossoms do not get entangled with the coarser. Dry them like everlasting.

The seeds of the cultivated grasses—a large number of species and varieties—are for sale at the flower stores. The wild grasses here mentioned, and many others which the limits of this article forbid noticing, can be found almost anywhere.

No matter if unacquainted with its botanical name, wherever a tuft of grass lifts a stalk of inflorescence accept its offering of beauty—June, July and August are grass months.

If grasses are green in color when gathered, or purple, or red, as some are, they soon fade to a pale buff. But even then they are agreeable to many eyes; especially if the rich browns of the sedges add their contrasts, and the orange and scarlet seed vessels of *Celastrus scandens*—the climbing bitter sweet, the coral-like berries of *Ilex verticillata*—the black alder, the dark blue berries of *Ampelopsis quinquefolia*—the woodbine or Virginian creeper, or even the shining black ink-berries and the red hips of the wild roses are mingled tastefully with them,—while bright autumn leaves—sumach, maple, oak, elm, beech, lending their presence, make up a gorgeous assemblage.

Yet some persons prefer to dye them, and they are often seen of all the colors of the rainbow. They will absorb any liquid dye, the dye being heated to scalding. If large quantities of any one shade are desired, the family dyes now obtainable at drug stores are most suitable. In using these for grasses, proceed as if dying cotton goods, following the directions for so doing, which accompany the dyes; except that in dying grasses the stalks should be suspended head downward within a deep jar or pitcher and the dye poured over them. Tied to cords which are stretched across the brim, they will be in good position to receive the dye without injury to their form. When the right shade has been attained—easily seen, if the vessel be of glass—the cords, still bearing the newly dyed grasses, must be hung across a dark closed room, till the blossoms are all dry; then they are ready to be arranged in vases, or bouquets, or to be used in decorating the hair.



When a few grasses only are to be dyed, sufficient coloring may frequently be made of some familiar substance to stain them handsomely. Thus, good blues are made by the use of the azurine or liquid blue,—(all dyes for grasses are needed hot)—which is green by the addition of a few drops of the muriate of iron-tincture; the iron alone giving to the scalding water different shades of yellow, which are permanent; and soda added to this making it orange, or brown, according to the quantity used. A very little—a few diachms—of cochineal, tied in a bit of muslin, and steeped in water a few minutes, gives different shades of rose and red according to the amount of water used, which are quickly changed to purple, if desired, by dipping in the blue. Thus one may have a gaily-colored assortment with little trouble.



Dried grasses, especially those of waving or drooping habit, can be very handsomely disposed in baskets—in hanging baskets, particularly, as our illustration makes evident. Here, with dried eternal flowers and crystallized grasses, we have a decoration—dazzlingly beautiful—either in sun or gas-light—for an arched doorway or an alcoved window. Crystallization enhances the beauty of dyed grasses as well as that of the natural-hued; but dyed grasses should be used alone for decorations, or with only a few of the undyed. It is poor taste to mix eternal flowers, bright winter berries, or autumn leaves with dyed grasses, as is sometimes done. Baskets of light wickerwork, lined with silver paper, and filled with dry sand are suitable for crystallized grasses. A hanging basket covered with a net-work of white glass beads or bugles, and suspended by slender chains of the same is very elegant for this purpose. Or the basket itself may be crystallized as well as the grasses.

The lighter and feathery species of grass are the prettiest crystallized. When the grass is to be used for ornamenting the hair, or for arranging with eternal flowers, the spikelets should be crystallized singly. A bouquet of grasses entirely is best made up before crystallization, as the crystals are liable to be shaken off if the grass is handled much. The crystallizing liquid is a solution of alum. One pound of alum will make sufficient liquid for a large bouquet.

When you wish to crystallize grasses begin the work in the morning, because it will take two days and a night, at least, to complete it. Use a perfectly clean porcelain-lined kettle or pan, and put in this the alum, that has been pounded fine as dust. Add to it a quart of cold water—rain or spring water is best. Set it on the

back of the stove or range, and keep it there till it is scalding hot, stirring it till the alum is dissolved. When it is hot pour it through a clean muslin stretched over a bowl, in order to strain out all impurities; the beauty of the crystals depends upon their clearness, hence all this care to have the solution perfectly clean. Let it cool till you can hold your finger in it comfortably. Then, get a deep jar or pitcher—glass is best; you can then see that the grasses are not bent nor crowded—which would mar their beauty. Within this suspend the bouquet, by tying it to a stick laid across the jar's brim, and from a small-nosed pitcher pour the solution over it, slowly, till the liquid rises to the stems of the bouquet. Let it remain thus, submerged, till the next morning, in a cool room. Take it out carefully then, and hang it half an hour—head-downward in an empty jar (by means of the stick across the top of the jar) to drip. It is then ready to place in the vase which it is to occupy. Set it in the sun and air—*not in the wind*—till night, and at that time remove the vase to its niche in the parlor.

When grasses are crystallized singly, suspend the larger panacled stalks as you would a bouquet, and manage them in the same manner. The lighter kinds, and the feathery sorts, may be placed head downward within the edge of a deep bowl, spreading as thinly as possible, and a few can be suspended in the center, by means of a short string and the stick across. When they have been in the solution (it was poured over them, of course, as for a bouquet) a day and a night, stretch the string in front of a window, and lay the others on a dish to dry. If, after drying, the crystals are not large enough, heat the solution and go through the process again. The solution may be colored, by adding a few drops of dye, when it is cool enough to pour over the grasses. What remains after crystallizing the grasses may be again heated, half a pound more of alum added, and a crystal basket made.

To make a crystal basket, procure slender canes or whalebones, such as are used in the manufacture of shirred bonnets. Form from these two rings, by tying securely together the ends of a strip fifteen inches long and of one thirty-three inches long. Then tie seven strips, twenty inches long, at equal distances, to the small ring; then, also, at the height of six inches, to the larger ring, at equal distances; and, bending them to form a scallop two inches high tie them again to the rim; and, latticing the strips between the rim and the base tie the other end to the base. Wind all fastenings strongly, and cross four strips within the base-ring to fill the vacancy, and the basket is formed. Strips of coarse cotton cloth, two-thirds of an inch wide, must then be ravelled on both their edges till only threads enough remain in the center to prevent falling apart at handling. Wind these strips over the canes that compose the basket-frame, covering all parts carefully, till the whole seems hung with a fringe. Set it in a deep dish, pour the warm—not hot—solution of alum over it; cover the dish, and let it remain thus twenty-four hours. Then take the basket out carefully; place it in an empty dish to dry in an airy, sunny room. Do not move it till the next day. This, too, should be covered again with the solution if not thickly hung with crystals. If properly managed the threads of the fringed cloth will be bristling in every direction and tipped with resplendent jewels. A white silk cord should be attached to hang it by, or handles made of canes covered with the fringed cotton and then crystallized like the basket. It will need a lining of silvered paper, and should

be filled with dry sand to receive the stems of the grasses and eternal flowers ; some of them being first made into small bunches for the center of the group.



We see here a vase containing a pyramid bouquet of crystallized grasses and eternal flowers. This is made in the same manner as the bouquet of *Stipa*, or feather-grass—mentioned on a previous page of this article—except that the flowers are the center of the small bunches of which it is composed, and the grasses are bound in with the moss that is needed to separate the different colored blossoms from each other. The crystals have a very fine effect among the green moss and bright flowers. But a China vase is less suitable to hold such a bouquet than a rustic one would be. One made to resemble an old forked branch of a tree may be easily fabricated from birch-bark—lichens and grey-beard moss gummed upon it at intervals, and also the red-cup moss. If this last cannot be

procured touch the lichens here and there with hot sealing-wax. The grasses and eternal flowers should be arranged in spreading form ; the drooping grasses are very beautiful for this. Suspend the branch from the ceiling, in the corner of a room. A vase made in the form of a cornucopia and covered entirely with lichens and mosses and filled with grasses is a very handsome ornament for the mantel or a corner bracket. A very large cornucopia filled with pampas-grass, crystallized, would be a magnificent figure for a niche in a hall or a reception room.

The dried flowers of the garden and the conservatory are often grouped with dried everlastings and some of the smaller grasses, as we find them here in this basket, the crystals of the grasses gleaming like dew-drops among them. A basket of dark colored wicker-work brings out their colors in strong relief ; one of this present shape is better fitted than a round one to display them to good advantage upon a center-table or a corner-stand.



A very pretty basket, in imitation of coral, may be made by fabricating a frame of this form from canes and tying upon it with stout thread, in a careless lattice work, the stems of bunch raisins—probably grape stems would answer. Two ounces of white wax should be melted and half its measure when liquid added of olive

oil or lard. Simmer these together, then stir in an ounce of vermilion, bought at the paint-shop; and when the mixture has cooled to the consistence of mucilage drop it with a camel's hair pencil upon and over the stems till all is a brilliant scarlet. Care must be taken not to break the small stems (from which the raisins have been plucked), as these, when tastefully covered with the vermilioned wax, have the appearance of thickly branching coral. This is a beautiful basket for displaying crystallized grasses of natural hue.

Fruit. Climatic Influence.

BY ALPHA.

PERHAPS no branch of Horticulture has received less attention, than has the influence of climate upon fruits. And increased light upon the subject by some, at least, is very much desired. It is an acknowledged fact that the climate has a great influence upon certain kinds of fruits, rendering some varieties worthless in one section, that are really excellent in another; but the exact conditions of that influence, and the result upon different varieties, and different kinds of fruit, has not met with that careful investigation that its importance deserves. As an illustration of the influence of climate upon fruit, we find currants ripening in central New York in the latter part of the Summer, and if allowed to hang on a long time, become what may be termed, a sub-acid. In Ohio they flourish, becoming large and perfect, but very acid, while in Southern Kentucky they will not grow at all, except under very favorable conditions.

The Concord grape is another illustration of the influence of climate, although grown in large quantities in the grape regions of the lakes, yet they do not possess the sweetness they do in Tennessee and Kentucky. In the latter State, I have seen them hang on the vine, until they became sticky with sugar. Examples might be multiplied of the effect of climate upon fruits, but it is chiefly to the effect upon the constitution of the plant, that attention should be directed, for upon success in the growth of the plant, must our future crops of fruit depend.

White New Rochelle Blackberry.

BY M. B. BATEHAM.

DR. L. M. AYRES, of Urbana, Ohio, an intelligent horticulturist, in writing to me on small fruits, inquires whether the original New Rochelle Blackberry was not really *white*? He says: "In 1862, I was connected with the Army, and stationed for a time at the United States Hospital on David's Island, near New Rochelle, N. Y. While there, I frequently visited that town, and on one occasion, on the grounds of a Mr. Sollman, saw some very fine white blackberries, which, I was informed, were the original New Rochelle variety. I told the gentleman that the New Rochelle, or Lawton, was everywhere of *black* color; he replied, no—that the genuine New Rochelle was undoubtedly *white*; and he showed me the spot where, as he claimed, the original plant was discovered. Now, is it not possible that the Lawton and the New Rochelle are really distinct—the one black, and the other white?" I think not; but who will tell us more about this white variety?

Painesville, O.

Editorial Note.—The Lawton and New Rochelle are precisely the same, and perfectly black; they are named after Mr. Lawton, who lived at New Rochelle, and was very successful in introducing and selling the plants. There is no white variety by either name.



Editorial Notes.

Management of Fruit Trees.

Pruning.—Young trees should never be pruned in spring after the buds begin to open. Nothing checks their growth more than pruning too late. If the proper heading-back has not been done before growth commenced, do not do it now. Much of the objection to shortening back the shoots of young, newly transplanted trees, is owing to too late a performance of the work. But if done in good time, it is eminently useful.

Grafting.—For this reason, when grafting is done late, no more of the stock should be cut away than is necessary for the insertion of the graft. If the grafts have been kept in good condition, without the starting of the buds, they will do well; but if a young stock in full leaf is cut off to insert the graft, it will meet with a severe check, and the new tree will be feeble. Small trees should not be grafted late, for this reason; but large ones, when most of the head is allowed to remain, will suffer little or no detriment.—*The Country Gent.*

Summer Pruning of Grape Vines.

The effects of severe summer pruning are often disastrous; the vine receives a sudden check of its sap; the leaves either drop shortly after the operation, if this has been performed during dry weather, or the vines force out a vigorous new growth at every point where it was cut back, which deprives the young fruit bunches of their necessary supply of sap, and cause them to decay or shrivel up. This latter evil is only to be apprehended if the pruning has taken place during moist weather. When the leaves drop, the fruit is suddenly exposed to the sun—is either burned, if far advanced enough in size, or decays and drops off. Often the fruit will remain stationary and uncolored after the natural period of maturity, when it drops, or if it remains it is always devoid of flavor. A knife should never touch a grape vine after it has received its winter's pruning. The necessary removal of superfluous shoots can be done by simply rubbing them off by hand. Allow the canes to remain untouched during their summer growth, notwithstanding what foreign vine dressers may say to the contrary.

If the vines have been neglected until the young shoots become hardened, it is better to let them remain than remove them at that late date; more injury is done to the vine by late removal than by allowing them to grow unrestrained.—*Southern Gardener.*

Sending Grafts by Mail.

Sending grafts by mail is to be done by procuring moss and wrapping it around the grafts, laying them in a damp place for a few hours, so that the moss is only in the slightest degree moist; then wrap with oil paper, so that it may be water tight, and they are ready for sending.

Sowing Flower Seeds.

Flower gardeners should take care not to cover the tiny flower seeds too deep. Many are disappointed, and think the seeds sown not good, because they are covered so deep that there is not vitality enough in them to reach the surface. If they "come up" after so long and exhaustive a struggle, they do not grow well, and are apt to remain sickly, and backward. No seed should be covered more than six or eight times its own diameter. Nature covers seeds but little when she sows them. She leaves it to the rains and their own slight weight to sink them into the soil. The ground should be finely pulverized and kept moist all the while. Frequent showers will do the work. When these are not to be had, recourse should be had to the sprinkler. But do not drench the ground with cold cistern or well water. Warm the water so as to take off the chill thoroughly. Let it be tepid, if not blood warm, and put it in after sunset; when the sun will not dry and bake the earth over the seeds, especially if the soil is clayey. Of course, if the soil is not already sufficiently enriched, fine fertilizers should be used. There is nothing better than the vegetable mould which can be procured in the woods. Well-rotted manure of almost any kind is good. Guano in small quantities is good. If one has not any of these, she can apply the rich soap-suds made in doing the family washing, and any slops of the kind—avoiding, of course, the raw chamber slops, which are too powerful and would do more harm than good, if they did not kill the flowers. Pulverized charcoal spread on the surface, will give a deep rich hue to the flowers, and assist their growth as a fertilizer. Almost every one has a little corner somewhere that flowers can be grown in, and nothing can be more cheerful, except the pleasant face of the cultivator of flowers, who is apt in the operation, to imbibe some of their delicate hues in her cheeks.—*Utica Herald*.

Preventive Against the Apple and Peach Borers.

The first and most important thing is to give clean cultivation around the immediate stems of the trees. Second, wrap the stems from an inch or more below the surface of the soil to one or two feet above, with some material impervious to the newly-hatched larvæ, provided the beetle should lay eggs thereon, which she will not be very likely to do. The material used may be tar paper, or even common brown paper dipped in oil. These envelopes should be put on before the beetles appear, and removed in autumn if they are worth preserving more than one season.

Coating the base of the stems in early spring with a cheap kind of grafting wax, made of resin and tallow, will answer the purpose. One pound of tallow to three of resin, melted together and applied when hot with an old brush, will answer the purpose. If the borers have made an entrance into the tree, the only way we know of getting rid of them is to dig out with a knife or chisel.

The peach tree borer is the larva of quite a different insect from the apple tree borer, it being that of a moth, instead of a beetle. Its scientific name is *Trochilium exitiosa*, and the female moth deposits her eggs upon the stem of the tree, in the same manner as the Saperda, and in summer, consequently the same preventives are applicable to both.—*Rural New Yorker*.

The Walter Grape.

Mildews a little in Central New York, but is very fine in Missouri. One of its best characteristics is its habit of *keeping well*—this, besides its excellent flavor, which in quality ranks by the side of the Delaware, is a good deal to say for a good variety.

The Flemish Beauty Pear.

We find by general testimony that this variety often exceeds the Bartlett in northern sections of the United States. In Minnesota and Wisconsin it is their principal variety, but we find that even in northern New York and Vermont it is much more productive than any other sort in our list.

Thomas F. Butterfield writes to *The Rural New Yorker*:

After twenty-one years' experience in the nursery business and grafting in a great many parts of Vermont, I have succeeded in finding eight or ten varieties of pears that will do better than the apple, and give more certain crops. I have one tree of the Buffum, twelve years old from setting, that bore full six bushels last year, and I can say with safety that pear culture will be a success in a short time in Vermont, as many are beginning to testify. We have too long neglected pear and grape culture. Our farmers are fast learning the great advantage of a fruit crop. It costs but little compared with other crops. I set over thirty-five scions last spring, in over fifteen different towns. The business has steadily increased for the whole twenty-one years of my experience. The Flemish Beauty pear stands at the head of all pears in Vermont—is perfectly hardy.

Sod and Cultivation for Trees.

A correspondent in an eastern county of this State writes us that he lately met with a case where the experiment had been tried for five continued years, for the purpose of seeing the difference between allowing young trees to stand in grass, and keeping the ground mellow by cultivation. A dwarf pear tree was planted in a large flower bed where the soil was constantly mellow, and another a short distance off in sod. The tree in cultivated soil, at the end of five years, was four times as large as the one in grass; and a standard pear tree, under similar treatment, was eighteen times as large as the other standard not cultivated. We have frequently met with similar cases, with results not greatly different from these.

Tulip Tree in England.

James Vick says that during his recent tour through the south of England, in visiting a park which contained many interesting and remarkable trees, one tree in full bloom attracted the special attention of his English friends. This was the tulip tree, and he adds, "I took no small pleasure in informing them that this was a common forest tree in America."

Horticultural Notes.

Trapping Cut-Worms in Gardens.

It is very annoying, after having set out a nice lot of sweet potatoes or cabbage plants, to see them cut down, one by one, by cut-worms. We have tried ashes, lime, soot, and, in fact, everything we have ever heard of, but never found anything effectual until, by accident, we found three or four of the worms, one morning, gathered under a small board, which had been left by some children on a sweet potato hill. Acting upon this hint, we placed small pieces of board, large chips, etc., all through the patch, and we trapped them by hundreds. The boards must be lifted early in the morning, and, on very warm days, again about noon. A little care, for a few days, will clear these pests out of the garden. One trial will satisfy any person of the merits of this plan.—*Ex.*

New Lilies.

Lilium Hansonii.—The *Rural New Yorker*, figures this new lily. It was named after Mr. Hanson, an artist of New York, by Max Leichtlin, of Carlsruhe, Baden. It is described thus:

"This lily is of a rather coarse and gigantic structure, attaining a height of from four to six feet. The leaves are produced in whorls, and are seven to eight inches long and two broad. The flowers are borne in cluster, and the buds being nearly globular they look very much like potato balls. The full expanded flowers are about

two and a half inches in diameter, and the petals are very thick looking, more like wax than natural flowers. Their color is also very peculiar, one side of the petals being yellow with a streak of white running through the center; the other side is a brilliant yellow spotted with purple. It is not quite as showy a lily as the *Auratum*, or some of the varieties of *speciosum*; still it is one of the most interesting and valuable varieties introduced in some time."

Lilium Bloomerianum (Kellogg).—During their trip to California, Ellwanger & Barry obtained this lily from Dr. Kellogg, its discoverer, who describes it thus:

"This is the most magnificent lily of the Pacific coast. Flowers large, nodding, of a beautiful orange hue, and studded with rich dark spots. It grows from six to ten feet high, and under high culture four to six stems are produced from a single bulb."

Mr. Max Leichtlin, mentioned above, has 125 distinct varieties of lilies in cultivation.

Planting Strawberries.

A modified form of hill or rather stool-culture has been suggested and practiced by Mr. J. B. Moore, whose practical good sense and eminent success in fruit culture, entitles his opinions to favorable consideration. Mr. Moore's method is as follows: In early spring to plant in rows four feet apart, or for field culture four and a half feet apart. In the rows the plants are to be from thirteen to fifteen inches apart, according to the vigor of the variety. As soon as the plants make runners, allow two runners to take root—one on each side and one foot from each plant. For the rest of the season keep the ground clean from all runners and weeds, with a hoe, round the plants, and with French's sharp tooth horse-hoe in the paths. The following diagram indicates the appearance of the rows and the relative distances:



Path two feet wide.



The large stars represent the original plants and the small stars the July runners, one foot off on each side. If the original rows are four feet apart, then the path between the runners will be two feet, diminished somewhat by the overhanging of the stools. The strength given to the plants by keeping down an excess of runners will secure a larger and better crop than when the ground is covered with plants. The ease in cultivating with a hoe is manifest, probably not exceeding one-half the cost of hand-weeding the beds. It will be seen that this is essentially the hill system, with this economy of space—that instead of a foot-path for each row there are three rows for every path. For such varieties as *Jucunda*, *Triomphe* and *Wilson* we confidently recommend this method.—*Transactions Mass. Hort. Society*.

Door Yards.

In some very sensible directions for the planning and keeping of village door-yards, the *Country Gentleman* says: "It is important to remember, first and last, that it is better to do less, and to keep the whole surface in smooth grass, with a very few trees, than to attempt too much and fail."

Strawberries—a Large Field.

At a recent meeting of the Warsaw Horticultural Society, Secretary Gregg stated that a plat of ground, belonging to a Mr. Willis, measuring a fraction less than five square rods, the present season, yielded three hundred and fifty quarts of Wilson's Albany strawberries, or at the rate of about three hundred and fifty bushels to the acre. The plants from which this yield was obtained were set in the spring of 1870, on ground which had been subsoiled and well underdrained. Until late in October, careful cultivation with plow and hoe was given, and early in the winter the plants were covered with forest leaves.—*The Prairie Farmer*.

A New Hardy Primrose.

Of this valuable plant *The Florist and Pomologist* says :

"It is just ten years since Mr. Fortune met with it in Japan—a basketful of blooming plants having been brought to his door. They were of course secured, but the journey home was too much for them, and despite every care, none reached England alive. Ever since that time, endeavors have been made to introduce this lovely plant, but till now without success, since the seeds have been found to lose their germinating power in the course of transmission to Europe. At last, however, perseverance has been rewarded, and plants have been raised in the establishment of Mr. Bull, of Chelsea. Our gardens have thus secured a perfectly new, thoroughly hardy, and exquisitely lovely primrose. Of the hardiness of the *Primula Japonica* there can be no doubt, since plants which have been standing all the winter, fully exposed in the trying atmosphere of London, are perfectly healthy, and came into bloom about the middle of May—some two or three weeks later than the plants which had been potted and flowered under glass.

English Walnuts.

The *American Rural Home* advises each tree-fancier to plant at least a specimen or two of English walnuts, and says it will thrive in sheltered locations in Western New York, but further south needs a rich, deep soil. It is a native of Persia, and was brought to Europe about three hundred years ago, and then to the middle portion of the Eastern States of this country, where it flourishes tolerably well. The tree grows large and handsome. The timber is valuable. It bears abundantly in most parts of England, requiring little attention. The nut has a good flavor when well matured; yet the same kind grown in Spain is quite superior, brighter, and of richer flavor. It partakes of the fine flavor of the shagbark hickory of the west (white walnut of the east), with other fine, delicate properties of its own. The *California Farmer* says no nut tree is more certain in California than the English walnut.

Guide to Fruits Arranged in the Order of Ripening.

A little pamphlet has been issued in the form of an addenda to the volume of Downing's *Selected Fruits of America*, which we consider quite valuable. It gives each month of the year, from January to December, and the names of all the best varieties of fruit which are ripe therein, whether apple, pear, cherry, apricot, plums, peach, etc.; anything, in fact, but strawberries, which of course all mature about one time.

Successful Treatment of Gooseberries.

A writer in the *Toronto Globe* says that for the past six years, as soon as grass can be cut, he spreads a quantity of newly-cut grass under his gooseberry bushes and lets it remain all summer. That treatment combined with very high cultivation and close pruning, has been a complete preventive of mildew for six years. He has had every year from that time, splendid crops of large, sound berries; some of them nearly as large as small plums.

A California Fruit Farm.

The orchards of Briggs Bros., at Marysville, Cal., are thus described by a correspondent: "Before reaching the orchard proper we rode through a field of 150 acres of castor beans, growing in the most luxuriant manner—which field, by the by, is to give way to a new orchard next year, the fruit trees for the same at present growing in the nursery by the side of the field of castor beans, and containing 25,000 one year old budded peach trees, 16,000 plum trees, 6,000 Eastern walnuts, 25,000 California walnuts, 2,000 apple trees, 500 Italian chestnut trees, etc. Passing along through this forest of young trees we arrived at the present peach orchard, consisting of 600 trees two years old, and some of them bearing this season, 150 pounds of peaches. These trees have made a remarkable growth, owing to the rich ground upon which they are planted, and in another year will make a tremendous yield of fruit. We next rode into the cherry orchard, containing 3,000 of the most thrifty young trees ever seen on the ground. Off to the south of this wonderful wilderness are 2,500 plum trees, of twelve varieties, and 500 apple trees, mostly winter varieties. Passing the peach orchard we reached the apricots, 2,200 in number, which are also two years old, and have borne a fair crop the present season.

Mulching.

Last November we neglected to mulch five trees in our garden. When the spring time came we found those five trees dead—died because they were not mulched. They were root killed. We mulched over one hundred of our trees in the same grounds. They came out just as well as we could wish. The names of the varieties of trees killed from the want of mulching are as follows: One Montreal Beauty, one Transcendent, one Lady Crab, one Standard Dutchess of Oldenburg, and one Dwarf Dutchess; three semi-crabs, and two standard varieties of the standard apple. The dead trees received the same cultivation, were planted out at the same time and under the same circumstances, but in the hurry of the season we neglected to mulch them, and as a consequence they are dead. The proof is positive, and we feel that we were properly punished for neglecting a few minutes' work. This is the second time we have lost trees under similar circumstances. This carelessness, or otherwise willful neglect, shows the importance of mulching in this climate. Nay, more, mulching is just as necessary in summer as it is in winter. It is equally as necessary in the spring and fall as it is at other seasons of the year.

By mulching in dry weather it keeps the soil moist. The dryer the soil the more beneficial the mulching. If this rule is not observed trees will not grow half as much. There is no danger of trees making too much wood in the Northwest. The more wood the better the trees will winter. Mulch, properly applied, kills all weeds and grasses. It will rot the sod around the trees. Again, it makes the soil lively and light. It will introduce heat, air, dew, rain. It shades the ground, and hence increases its fertility. In winter it prevents the ground from freezing and thawing. A steady temperature is constantly around the roots of the trees. Apple trees, and many other fruit trees, are strong feeders, and require a pretty good soil. By mulching, when the material rots, it becomes manure, and if the mulching is composed of leaves, hay, or straw, it makes a vegetable fertilizer which is very desirable. Especially is this so in orchards that are cultivated. We don't care in what circumstances a tree is set out. By liberal mulching it will grow a good deal more rapidly. It will be more hardy. It will give trees life and health. By all means mulch the trees.—*The Farmer's Union.*

Eugenia Ugni.

All who possess orchard houses should procure a plant or two of this myrtle. It fruits profusely, and possesses the most delicious flavor imaginable. In general appearance it bears a close resemblance to the common myrtle (*Myrtus communis*). It may be propagated freely from cuttings of the young wood in a moderate heat.—*Gardner's Weekly.*

Chinese Primula.

No plants surpass in beauty and durability of flowering for winter the varieties of Chinese Primrose. The colors are red, white, crimson, purple and pink. If placed on a shelf or stand near the glass, in a window with a southern aspect, they will soon convince you they are at home. Unlike most plants, they require a dry atmosphere; consequently the living room is adapted to their growth.

They are easy of cultivation, and almost any one can raise good early flowering plants, by sowing the seed about the first of this month, in a pot prepared as follows: Put a few pieces of broken pots in the bottom; on that put one inch of rough, lumpy soil; sow the seeds, cover lightly, water gently; put a pane of glass on the pot, and place in a shady place. In about two weeks the plants will make their appearance. Remove the glass when the plants have three or four leaves; pot them into two-inch pots, and place them under glass for a few days. When the roots begin to fill the pots, they should be put into four-inch pots. For the last potting, add one-eighth charcoal dust to the soil. This increases the brilliancy of the flowers.—*The Rural Messenger.*

New Publications.

Hyde's Agriculture.

Comparing this modest volume with the more famous one, "What I know about farming," we do not hesitate to say, the reader will gain more practical and useful ideas about the rationale of Agriculture and farm management, from the former than the latter. Mr. Hyde is an accomplished farmer (i. e., knows and practices to perfection), and this volume contains in a nut-shell the substance of his twelve Lectures before the Lowell Institute, at Boston. They were delivered in the winter of 1870, in Boston, and reported in the columns of the Springfield Republican. We remember reading them with admiration, and preserved for a long time all we could lay our hands on. We are glad to find them issued in this complete book form, at the cheap price of \$2. The chapters on Manures, Roots, and Cattle Husbandry, are each worth ten dollars to every farmer. Published by American Publishing Co., Hartford, Ct.

Atwood's Country and Suburban Homes.

This volume contains 287 pages, with 33 designs of Cottages. The descriptive matter, and suggestions about building cottages of wood, brick or stone, are very excellent and practical, just such as we would be glad to see in every book of architecture. As it is issued, about one-quarter of the illustrations are good and generally pleasing but the rest, we fear, will strike the reader as very indifferent, and not likely to be copied by any one desiring to build. Price \$1.50. O. Judd & Co., Publishers.

Editorial Notices.

Rapid Increase of Business.

Our friends must be patient; we do not like to delay correspondence, but we have been overburdened with work. Our mails average now 20,000 letters a year. The LADIES' FLORAL CABINET averaging 1,000 new subscribers a month. *Bryant's Forest Trees*, and *Every Woman Her own Flower Gardener*, issued a short time since, have proved successful, and we have just printed new editions. *Window Gardening* is meeting with a heavy demand, and THE HORTICULTURIST enjoying more new subscribers and advertising patronage than ever; all have tumbled in upon us an extraordinary amount of work, and many matters have been neglected which will now, we hope, since a breathing spell has arrived, be attended to.

Inquiry.

"*Quercus*," of New Haven, Ct., will please favor THE HORTICULTURIST with his full name and address.



The Weeping Beech.



VOL. 27.

APRIL, 1872.

NO. 310.

New Plants, Trees, Shrubs and Fruits.

The Weeping Beech.

OUR illustration this month suggests a topic of peculiar interest concerning a tree of most curious characteristics. The Weeping Beech, in growth, is unlike any other ornamental tree of the pleasure ground—and there are so few living trees of a good age and distinctive massive habit, that, when seen, it strikes the beholder with a feeling almost akin to reverence. Scott considers it “the most curious tree of our zone,” and says, “it is one that will commend itself more and more as it becomes known. The original tree stands in the park of Baron de Man, at Beersel, Belgium. The trunk is three and a half to four feet in diameter, and grows in a twisted form to a height of twelve to fifteen feet, with an appearance as if an immense weight were pressing it down. The branches cover an area of nearly a hundred feet in diameter. Its history is curious: Some sixty years ago the Baron’s gardener was planting an avenue of beech trees, and the Baron observing a very crooked specimen, directed to have it thrown out; but the gardener planted it in a corner of the grounds little visited, where it grew to be one of the most beautiful and singular freaks of sylvan nature.”

The illustration given in our frontispiece is taken from the grounds of A. Waterer, Knap Hill, Woking, England, and is thus described by him: “A most grotesque, and at the same time picturesque tree, of singular beauty, and exactly suited for pleasure grounds. It is so erratic in growth that a description would convey no adequate idea of its beauty, and even the illustration can represent it only faintly as it is. The spread of its branches is thirty-two feet.”

Loudon says of it, “that it forms a very singular and highly beautiful object, well deserving a place in collections of weeping trees.” And, in his Encyclopædia, he refers to one in the plantations near Milton Park, the seat of Earl Fitzwilliam, in Northamptonshire, where “there is an accidental Weeping variety of the Beech.

The branches are beautifully pendent, and even the last six feet of the top bend down. The height is fifty feet." This tree, as noticed by Loudon, cannot be as deeply pendent as the specimens we have at the present day, where they do not often reach a height above thirty feet, still the branches bend to the ground.

The *Gardener's Chronicle*, adding its word of commendation to others who have spoken of it, says: "It is not too much to say, that the Weeping Beech (*Fagus Sylvatica pendula*) is one of the most strikingly beautiful of deciduous trees—its beauty being of the grotesque and picturesque, rather than of the spruce and symmetrical order. It is so singularly erratic in growth that no two trees take the same character, and yet all alike possess a certain free and easy development, as if bidding defiance to rule and order, combining therewith a peculiar style of gracefulness in the weeping masses of pendent spray."

The finest specimen in America, is undoubtedly that on the grounds of Parsons & Co., Flushing, L. I. This tree is about twenty-five years old, forty-five feet high, and fifty feet across the greatest spread of the branches. There is another tree still, on the grounds of John A. Kendrick, Newton, Mass., planted in 1834, and is now fifty feet high. The trunk is straight from the ground to the top, and branches start out at regular intervals, droop downward and trail upon the ground.

It needs a good, rich soil; is a very rapid grower, and, we should judge, healthy and strong, able to live to a good old age.

The Primula Japonica.

This magnificent new *Primula* seems to meet with the unqualified admiration of the English florists, and seems to do better with them than in its native home, as appears from a letter written by Mr. Kramer, of Yokohoma, Japan, to an English Journal: "The *Primula Japonica*, judging from the illustrations, must be very much finer at home than it is ever seen here. A cold climate and good cultivation have no doubt great influence—for its native country is said to be the island of Yeza. It is generally found growing on the banks of streams and water courses, in yellow loam. I have seen it growing two and a half feet to three feet high, with six or seven tiers of flowers—a magnificent sight. The seed requires no artificial heat in germinating, and when sown, let it remain undisturbed six months, or longer. I have now some boxes which have stood for two years, and this year there are more plants coming up than even the first year."

New Dwarf Mignonette.

A new variety of the *Reseda odorata*, called the *Nova Compacta Multiflora*, has been brought out in Europe. It forms a dense semi-globular bush of about ten inches high and eighteen inches across, the robust and vigorous branches being clothed with dark green leaves, and decorated with innumerable close spikes of red dish-tinted flowers. These flowers are said to be produced, without intermission, from spring till late in the autumn, the blowing period being of longer duration in this than in any other variety, owing to the successful branching growth. It seems very suitable for the garden border, or as a pot specimen.

The Dwarf Horse Chestnut.

The *Gardener's Monthly* calls attention to this small growing tree for pleasure grounds. Although it cannot be called a novelty, being one of the oldest of culti-

vated trees; yet it is but little known, and seldom seen in collections of trees. It is in bloom in midsummer, at which time the *Monthly* says, "there is nothing either new or old that will compare with it in picturesque beauty. Mature plants reach a height of about ten feet, but six is the general average. It will succeed admirably on a single stem, when it makes a large umbrella-like head, which, when surmounted with its numerous panicles of bloom, is more attractive than when grown in any other way. It is a very useful plant in this, that while it grows best, as all things do, in rich soil in open places, it will also do pretty well in shade. Wild, it grows in rather shady places, in Kentucky, Georgia and North Carolina; but it is probably hardy even in the coldest part of Canada.

"In nurseries, it is propagated chiefly by suckers. It may be grown from seed, but these sprout at once, sometimes before they drop from the tree, and when placed in the earth often rot. In their native places, the seed sprouts amongst the dead leaves, where it is just damp but never wet, and these conditions must be secured to raise the nuts in gardens."

Amaranthus Salicifolius.

This new Amaranth seems to meet with favor. The *Florist and Pomologist* says of it: "It is one of the most ornamental of its family; beautiful as a specimen pot plant, and beautiful in suitable sheltered situations of the formal flower garden, during the summer season. The drooping foliage, except in color, reminds one of some of the narrow-leaved Crotons, and the whole plant, from its pyramidal outline, is not only remarkably fountain-like, but singularly graceful and beautiful."

Ornamental Shrubs.

These always form a most interesting branch of rural pleasure. And we have often wondered why some one did not make them a specialty, and gather together a complete herbarium of all the best varieties of flowering or ornamental habit, fit to be cultivated in rural gardens or villa grounds. Perhaps we may undertake it one day ourselves, for we know of no nursery in the country where can be seen a complete assortment in full growth and flower. Too often they are sold before ready to bloom.

Flowering Trees.

We see that in England a new variety, the *Pyrus Spectabilis Rosea Plena*, is introduced to public notice. It is quite stout in growth—vigorous, one year old shoots producing short leafy spurs, terminating in crowded clusters of from four to six large showy flowers, while the older shoots throw out short laterals, which are equally clothed with flowers. The leaves are oblong acute. The flowers, as described by *The Florist*, are of a lovely rose pink, paler in the expanded state, and, as the branches are naturally laden with a profusion of blossoms, the tree presents a charming play of colors during the flowering period. The color resembles that of the Monthly rose, but is brighter, and the half-opened flowers have just the appearance of diminutive pink roses. In this state they are about an inch across, and when fully expanded measure as much again, the flowers being semi-double. This class of tree is very ornamental, and, as an English writer has said, "deserves to be much better known, and more frequently planted. Later than the almond, but earlier than the hawthorn and laburnum, these charming low trees come in with double-blossom cherries, and lilacs of all hues, to light up the prominent parts of the shrubbery or the

pleasure ground, with their gay and abundant flowers." It is a variety, although not very new, is still rare and not very generally known. Have any of our American Nurseries got it in their possession?

Another Variety.

The *Pyrus Malus floribanda*, is another variety of this family.

It is described, by English florists, as a remarkably floriferous plant, forming a small tree, producing long slender branches, which burst out in spring (about the end of April) into leafy garlands of brilliantly colored flowers.

From each of the numerous buds proceeds a short spur-like shoot of about an inch in length, bearing several of the small lanceolate, acutely serrated leaves, and terminating in a kind of corymb of seven or eight lovely blossoms, on slender peduncles, which thus convert the shoots into very brilliant floral wreaths, measuring from four inches to six inches through. The flower buds are ovate, about one-half an inch long, and of rich crimson, looking like clusters of small elongated cherries. The calyx is narrow and acuminate, the segments woolly inside and smooth outside, while the small oblong ovary is pubescent. The blossoms are succeeded by small round fruits. When half expanded, the flowers appear striped with white and carmine, the petals being imbricated, the inner part remaining white, while the outer exposed half becomes colored. Fully expanded, the flowers are white, the fine petals being white inside, spreading, oblong, rounded at the apex, and distinctly clawed; in the center is a tuft of numerous erect stamens and fine styles, somewhat exceeding them in length. Thomas Moore, of London, says of this variety: "The profusion of flowers renders the plant exceedingly gay and ornamental, and, indeed, in the earlier stages of development, owing to the abundant but gracefully disposed trusses of highly colored buds, the appearance of the tree is truly gorgeous. Beautiful as are the Almond trees in the early spring, they are utterly eclipsed by this handsome *Pyrus*, which has not only a more elegant, but more brilliantly colored inflorescence, with a setting of small green leaves."

Crab-Apples for Ornamental Planting.

Why has not this class of trees received greater attention and higher eulogium for ornamental planting? Nearly all the varieties have a handsome habit, with beautiful spread of branches, and in fruiting time really present a most delightful picture. The beauty and exquisite fragrance of their blossoms are objects alone to attract the praise of the planter, and merit room for at least one or two specimens in every gentleman's ornamental grounds. The *Chinese double-flowering Crab* is much the finest of all the Crabs for this purpose. As Scott describes it: "Its blossoms are semi-double, very large, nearly two inches in diameter, of a rose color, when expanded, but a beautiful deep red in the bud. The fruit is yellow, when ripe, and the size of a cherry. The tree attains a larger size than most of the crab-apple trees. It is an upright grower, when young, but with age its branches spread and bend until it becomes a graceful drooping-boughed tree. Height and breadth of top, 20 by 30 feet."

Newly Introduced Trees and Shrubs for American Use.

The Horticultural Society of Western New York, at their recent session in Rochester, discussed the question of the most valuable of the new varieties of ornamental trees and shrubs for American use; and the report of G. Ellwanger, the chairman

of the appropriate committee, will be found valuable to preserve. The following were noticed as new varieties of merit:

Young's Weeping Birch, which has no superior for small lawns and cemetery lots—the branches very slender and drooping, and forming one of the finest weeping trees. Another weeping birch, known as the *Betula elegans pendula*, has long, flexible and slender branches which hang perpendicularly downwards, in lines parallel with the stem, which give the tree a peculiar and distinct habit. The weeping poplar, *Populus grandidentata pendula*, is vigorous in growth, the branches slender and gracefully drooping, the foliage dark and large, and the whole tree much superior to the old weeping poplar. It will succeed well in all situations and soils. *Betula alba fastigiata* forms a beautiful pyramid like the Lombardy poplar, admirably adapted to a small lawn. The *Crisp-leaved Maple*, originated on the grounds of Ellwanger & Barry, is a variety of the silver maple, and has delicately cut and curled foliage. *Leopold's Maple* has leaves mantled with purplish red changing to rosy pink, and has a striking effect early in summer. The *Kakir Elm* has upright and large glossy foliage, giving it a distinct character. The *Golden Larch*, from Japan, is of compact and rather slow growth—light green, changing to yellow in autumn. *Magnolia Lenni* is a magnificent hybrid of the Chinese varieties, with dark purple flowers; and *M. Norbertiana*, similar to the preceding, and fragrant. Both flower at the same time as the *Soulangeana* and *Conspicua*. *Paul's New Double Scarlet Thorn* is regarded as the finest of all the thorns, being very double and bright crimson. Grouped with the double pink and doubled white, it has an exquisite effect on the lawn. *Siebold's Double Dwarf Cherry* has double purple flowers resembling miniature roses.

Of newly introduced shrubs, the large flowered *Hydrangea paniculata* is particularly worthy of notice, and is the finest flowering shrub of recent introduction, growing from eight to ten feet high, and bearing large pyramidal panicles from 12 to 18 inches long. Its flowers are white, and it continues a long time in bloom. It is still scarce and very little known. *Thunberg's Spiræa*, is pink white, a free bloomer and a desirable shrub. A new *Weigela* has pure white flowers, a profuse bloomer and vigorous grower.

Epimedium Alpinum Rubrum.

We need for our flower gardens more herbaceous blooming plants of the size and other desirable characteristics of the old familiar *Dielytra*. This *Epimedium* seems, in the mind of a recent writer to the *Rural New Yorker*, to meet the case, and deserves special attention.

It is well suited for shady borders and rock work; also for greenhouse decorations, blooming as freely when grown in pots as our well known *Dicentra spectabilis*. There are, as yet, few of these plants in this country; but as it can be propagated with great rapidity, we presume they will soon be abundant.

The plants grow in dense clumps somewhat like our common *Spiræa (Astilbe) Japonica*, throwing up numerous flower stems twelve to eighteen inches high.

The outside of the flowers is bright red, the edges of the petals folding over, so that the color is seen when looking at the inside of the open flower. Inside, the petals are white, with a light stripe of red running down the center of each.

The long panicles of flowers possess a delicate grace, which is scarcely exceeded

by any other plant of this class. The leaves and flowers retain their bright, rigid appearance for several weeks, whether grown in the forcing-house or in the open border.

There are several other species of *Epimedium* deserving a place in our gardens; but few of them have ever been cultivated in this country. But we hope the introduction of the one we have noticed will call the attention of our florists to this long neglected but highly ornamental genus of plants.

Experience with the New Fruits.

At the January meeting of the Western New York Horticultural Society, the committee on fruits, from material furnished by Charles Downing and other members, gave some valuable facts concerning some new varieties of fruit.

Among the new apples, the Lawver, of Missouri, was considered especially valuable, being large, handsome, and a late keeper. The *Lady Elgin Crab*, a new western sort, is mentioned as a fruit of high promise for its excellent quality. The *Dr. Reeder Pear* was spoken highly of by Charles Downing, as a small but excellent late autumn sort, growing on a hardy and vigorous tree, and proving a good bearer.

The *D'Anjou* was, however, generally admitted as the finest market sort for that region.

The Croton Grape was considered unsurpassed in quality. The Eumelan, by one grower, was admitted to be healthy and hardy; but the bunches being small and well formed, it would, probably, only rank with the Creveling as an early grape for family use; but another cultivator found the Eumelan the finest out of twelve sorts, as a keeper; the bunches might be sometimes a little loose, but generally were very compact.

The excellent quality of the Walter was highly spoken of, and the Salem too liable to mildew.

The Herstine Raspberry was commended for its good size, fine appearance, and good flavor. Among the new and foreign fruits, Geo. Ellwanger reported the following as desirable:

The *Duchesse de Bordeaux* has fruited in several localities, and promises to be a good late pear; but requires a good soil and warm season.

The *Oblong Crab* proves to be the most beautiful of all the crabs. Among the new pears, the following were reported:

Vanderpool, September—medium, agreeable and handsome.

Bonne de Puits-Ansault, September—medium, juicy, delicious—from Leroy, one of the best of the smaller pears.

Calebasse d'Octobre—large, long pyriform, with a ruddy cheek, fine-grained, juicy and excellent—mid-autumn.

Mme. Baptiste Desportes, October—above medium, fine, melting and excellent.

Eugene Appert, September—medium, golden russet, with a high flavor.

Dr. Lindley, November—sweet, melting, crisp, first-rate.

The Ontario Raspberry.

This new black cap variety originated upon the grounds of E. E. Lord, Fairport, N. Y. Its claims upon public notice seem to rest principally upon the testimony of Chas. Downing, E. Ware Sylvester and J. J. Thomas, who have seen the fruit and speak favorably of it. The plants are described as being vigorous and very produc-



The Ontario Raspberry.

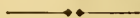
tive. Fruit large, firm, uniform in size, few seeds, keeps well—of sweet and rich flavor, of light color or purplish brown, considerable bloom. Growth is very strong and vigorous; canes hardy, and ripens a week earlier than any other black cap, and continues in bearing for a long time.

New Double Fuchsias.

The *Gardener's Chronicle* mentions the following as the latest and best of English new varieties:

Avalanche (G. Smith's).—This is the most noble Fuchsia in its class yet sent out. The tube and sepals are of a light carmine and pink, the latter short, though of good substance and well recurved; the corolla is pure white, exceedingly large, and very closely set with petals. The plant is of free growth, although the wood is thin and wiry, and it is a most profuse bloomer for a double variety.

Champion of the World.—"This is by far the largest Fuchsia that we yet possess. The foot stalk is of unusual length and strength, so that the flowers stand out boldly. The tube is short, the sepals are very broad, and of great substance, well reflexed, and of a most beautiful coral red. The corolla is of immense size, and as it expands, forms two-thirds of a perfect ball, its color being of the most intense bright dark purple. The plant is of free growth, tall, and blooming abundantly, so that for conservatory decoration it is one of the most valuable Fuchsias yet sent out."



A New Use for Old Bulbs.

DURING a recent visit to a most delightful old garden, I got a hint of a use for old bulbs which may interest many of our readers. It must be remarked, first, that there are several extensive runs of holly and thorn fences, and few bits of half wild scenery in the place; and, further, that all the best flowering bulbs are grown in exhibition style for the conservatory. It is the gardener's rule to buy every year for this purpose, and it is his rule not to destroy a single bulb. He disposes of them in a short and summary manner. When they have done blooming, they are transferred to spare pits for the advantage of a little shelter, and of course they get a little water occasionally. As soon as mild weather occurs in the early part of April, they are all planted out in front of the green fences, and in the borders and odd nooks of the wilder parts of the garden. The process of planting consists in opening holes and turning out the ball complete, without even removing the crocks from it. The result is that wherever you go in the spring of the year in this place, you see thousands of snow drops, crocuses, tulips, hyacinths, and other equally beautiful flowers as they open in succession, and, in a majority of cases they are really fine in quality, the crocuses and tulips especially. If a great heap of cut flowers is wanted, there is no difficulty in obtaining them, and I was informed that a very great cut is made every year for the dressing of the parish church at Easter. The bulbs are not the only things that are naturalized in this way, for the banks and the boundary lines are smothered with violets, primroses, several varieties of narcissus and other equally desirable hardy plants, all of which have been turned out of pots when done with instead of consigning them, as is usually done, to the muck heap.—*Gardener's Magazine*.

The Lawrence Pear.

BY PARKER EARLE.

EDITOR HORTICULTURIST: An editorial note in the *HORTICULTURIST* for February, reports me as saying that "the two most profitable pears in the west are Lawrence and Bartlett," and "placing the Lawrence ahead of even the latter." Now this remark standing alone has a very different significance from what it did in the connection in which it was made; and it carries the impression that the Lawrence is largely grown at the west, and found even more profitable than the Bartlett, and this is not the fact. Permit me then to give the paragraph in full in which I alluded to these two pears, as it will relieve me from the appearance of having made a very incorrect and ignorant observation, and will possibly suggest an important thought to pear growers. Here is what I said a year ago in the *Journal of Horticulture*:

"I lately asked a pear-growing friend to name the two most profitable market pears. He promptly replied 'Bartlett and Lawrence.' I indorse my friend's opinion, only changing the statement to 'Lawrence and Bartlett.' Undoubtedly the Bartlett is, to-day, the most popular pear in America; but its great popularity seems to be threatening the ruin of its profitableness. I judge that fully one-third of all the pear trees planted in this country are Bartlett's. Within my personal acquaintance, the proportion is still larger. The effect is even now being felt in the depression of prices during the season of this variety. The great quantity to be hereafter thrown on the market, and at a time when peaches are the most abundant, gives promise of low prices for all varieties during its season. So it seems to me that the pear, likely to be the most remunerative to the grower, a dozen years hence will be found among the later varieties. My own experience and observation, every year, shortens the list from which this 'best pear' must be taken. I cannot now name a half dozen kinds which, in our climate and soil, answer the most essential requisites of good market pears. With me, the Lawrence, at present, heads this list."

So you see, Mr. Editor, that all I claimed for the Lawrence was a fine promise of being more profitable than the Bartlett. My friend, whom I quoted, has already found it equally so; and that gentleman is the only one among my western pear-growing acquaintances, who has marketed any considerable quantities of the Lawrence. I know but few men in the west who have it planted in quantity. The essential fact I would call attention to, is the undeniable one, that of all the pears planted throughout the country, probably more than three-fourths, and possibly nine-tenths will ripen in the months of August and September, just when peaches and grapes are most abundant. The great markets of the east have generally given much better prices for varieties coming later in the season. This has not generally been so at the west; but it is because the supply has been light at all seasons, until within a year or two past. But the number of large orchards just coming into bearing, a very large proportion of which are of varieties ripening very near the Bartlett season, will quite certainly give us low prices at that time. The winter sorts have been much neglected, and of those planted many prove of little value.

There is no pear that, on the whole, is so reliable to grow as the Bartlett; and there is none that suits so large a number of consumers, If it could be kept till mid-

winter, we should plant few others for profit. But as matters stand, I think there is encouragement to grow many more good late kinds; and of those I believe the Lawrence to be one of the best.

South Pass, Ill., Feb. 21, 1872.

Isotoma Petraea Alba.

BY AL FRESCO.

I NOTICED the other day, that one of our American seedsmen advertises the Isotoma as a "novely for 1872." With me, it was a novelty in 1860.

I have not tried it as a bedding plant, for which purpose it is recommended; but have every reason to believe that it would prove very effective if planted near a house or street. During the ensuing summer I propose testing the *Isotoma petraea alba*, as well as *coerulea*, as bedding plants, and if deemed worthy of notice will report the result.

My object at present is to direct the attention of your lady readers to it, as a window plant. Last fall I had three small plants growing in thumb pots, and wishing to preserve them during the winter, in the beginning of October I planted the three in a five-inch pot. To protect them from frost, they were placed in a low cellar under a verandah. The cellar had one small window, and in this unsuitable place they remained until the middle of December. Upon examination, I found them growing and healthy, and, as an experiment, I removed the pot to my bath-room. The plants grew luxuriantly, and bloomed freely. With but little care and attention, these plants have produced numbers of chaste and beautiful flowers, and have been admired by all who have seen them. Independent of its beautiful flowers, the foliage is highly ornamental.

For years I grew this plant for filling up the body of bouquets—for which purpose its beautiful foliage and star-shaped white flowers adapt it. I inclose a leaf and flower for the inspection of our friend, the editor.

One strange feature about this plant, is the fact that a package of the seed can be purchased in London for eight cents, and an American seedsman advertising it as a novelty for 1872, at fifty cents per package.

Editorial Comment.—The specimens sent by our friend were really exquisite and charming. We are glad attention has been called to its merits as a plant for window gardens.

The Peach Prospect.

BY D. S. MYERS.

THE Peach prospect is bad. I cut off 50 branches, counting 670 fruit buds, and but 120 of them were perfect from frost. The winter has been extremely cold here. I think, without any further injury, we may expect one-fifth to one-fourth or, in favorable places, one-third of a crop of peaches. I find the yellow fruit, Crawfords, hurt the most—about all gone.

Ridgeville, Del.

The Wachusett Thornless Blackberry.

BY JAMES DRAPER.

IN the January number of this Journal, our friend W. H. W., of Reading, Mass., has given his experience with this new variety, which is not very encouraging. I have a word to offer on the other side of the question. Having obtained the plants when first disseminated, and growing it more extensively each year since, giving it the same care and culture as with the Wilson's Early, Kittatinny, Dorchester, Lawton, Sable Queen and Missouri Mammoth (the two latter being of little value to me), it has proved to be the earliest of them all; in productiveness, second only to the Wilson's Early; in quality, the finest of any variety with which I am acquainted; size medium, or about two-thirds that of the Wilson or Kittatinny; color, a deep glossy black; flesh tender, sweet, juicy and of the highest blackberry flavor. It is not entirely thornless, some canes having more or less smallish thorns on them, while others are as smooth as a willow.

Next to the excellent quality of the fruit, its principal merit is its extreme hardiness, and far north of this place, where the other choice varieties will not stand the winters, the Wachusett goes through uninjured.

As a market variety, where the larger kinds will flourish, this would not prove as profitable; but for garden purposes, as a table fruit, it is certainly very superior.

Noting its record for six years past, and the experience of those who have planted it largely, to the exclusion of all other varieties, which, with the high opinion given it by the many horticultural visitors to my grounds the past year, I cannot but express the opinion that the time has not yet come for the "burial" of the "Wachusett Thornless Blackberry."

Worcester, Mass.

Shelter for the Great West.

MR. EDITOR: While our legislators at Washington are sitting in comfortable arm-chairs and legislating away millions by compromises—such as, "if you vote for my railroad grant, I'll vote for any scheme of yours"—the woodcutters of the West are denuding the country of what shelter they have, and in a short time the dreadful effects will be visible, in droughts at one season, and deluges at others. But what care our Solons, so that they carry home greenbacks or gold for the consumption of to-day!

The grants of land to railroads have been unaccompanied by any stipulation that trees should be planted, while it is well known that shelter is the great want of many portions thus given away. It would be merciful to those corporations, if it had been stipulated they should plant larch, and locust, and oak for future use, for ties for their roads. Let us hope this subject will find an advocate in Congress. Future generations, so little thought of now, will bless the man or men who can institute a plan for tree-planting in the West.

JNO. JAY SMITH.

Practical Fruit Culture.

Experiences of Practical Men—Notes from Horticultural Societies.

THE session of the Pennsylvania Fruit Growers' Association, in Philadelphia, January 16 to 18, called out the most prominent of the horticulturists of New York, New Jersey and Pennsylvania, and for several days there were many interesting and practical discussions, essays and addresses. Last year we published the addresses; this year we change, for sake of variety, and now give the discussion, as brought out by the experience of practical men. Such re-unions are always sure to bring out some facts of value to the public.

The annual address of Josiah Hoopes, the president, upon the Constitution and Growth of Plants, brought out an opinion that the cause of sterility in fruits may come from the *excess of vigor*, as well as lack of vitality. The subject of *the deterioration of our apple orchards*, naturally coming up in this connection,

Thomas Meehan said: The difference between the apple orchards of the present day and the past is due, in my opinion, entirely to the *exhaustion of the soil*. We should treat our fruit trees as well as our other crops, giving them sufficient nutrition. If we manured occasionally, the apple trees would be very far from being a failure.

William Saunders: Much is due also to the *influence of the climate*. Over a series of years the thermometer has, by observation, maintained the same range. The cold does not injure now any more than formerly; but the cutting down of the forest trees has induced a dryness in the atmosphere which is prejudicial to the success of fruit trees. A humid atmosphere is necessary. The cold, dry winds of March do much harm; trees and evergreens would do well even then if the thermometer did not go so low.

Andrew S. Fuller: I was brought up in an orchard, and have cut down forest trees ten to twelve inches in diameter; have burned them, and spread the ashes over the ground; and we had finer apples and peaches than we now have. The forests have since then been greatly destroyed, and protection has been lessened. Nevertheless, in my opinion, *starvation* is the real cause of the death and decay of most of our orchards. Even the yellows of peach trees are due to that cause. No matter how old the tree may be, by pruning, covering up the wounds, even if the tree is seventy-five years old, I can restore it to health and vigor. I had an old tree near my office, the whole top of which was taken off; the sprouts, as soon as they grew, were grafted with the Early Harvest, and now we are getting apples yearly.

E. Satterthwaite: The main cause of the deterioration of apple orchards in this vicinity is due to insects. I remember the time when trees, whether manured or not, pruned or not, bore every year great crops of fruit. Then there were no insects. These insects have appeared within twenty or thirty years. Our trees are better cared for now than then. The forests in this state (Pennsylvania) are as great now as then. But insects have multiplied, and no efforts have been made to restrain them. I have great faith in the domestication of birds, to restrain the insects.

A. S. Fuller: Interest in entomological subjects seems to be decaying. Thirty

years ago you had the finest entomological society in the country, and your entomologists were preëminent; but they are gone.

Thomas Meehan: The apple-borer has more to do with the failure of fruit than anything else.

P. T. Quinn: I had two Fall Pippin apples in an acre of rhubarb. Those trees never failed to bear large crops all years—even the *off years* bore good crops and good apples; and the trees never were troubled with insects. Cultivation, good treatment, and manuring have kept them in first-class order.

Chas. Downing: The *codling moth* is the principal difficulty. Apple trees must have food as often and as rich in proportion to their needs as men.

Satterthwaite: Go over your trees in the fall of each year, say October, and cut out the insects or borers. One minute to each tree is enough. Study the characteristics of each tree and its insects.

William Parry: Local habits have a good deal to do with the success of trees. The best trees in our own locality are those under highest culture. Trees treated with the old mortar from buildings have put out new shoots and grown vigorously. Trees are, to a great extent, local in their success. Put out only those trees which have been tried and long fruited in your own vicinity. Do not put too much faith in new fruits.

H. T. Williams: I believe one source of failure is in the deficient supply of potash. Our soils are almost exhausted of this element of fertility. If we can get plenty of ashes, or get any potash manure, a great benefit will always accrue from their use. Apple orchards that are sod bound should be broken up, cultivated, well manured every year, old limbs pruned, dead limbs cut out. Apply plenty of ashes, grow no crops in the orchard, and, when new shoots appear, graft over to good varieties of apples which do well in the cultivator's own neighborhood. This I believe is the best way to bring old trees and orchards back to fruitfulness. The manure has as much to do with the success of the trial as anything.

Small Fruits.

William Parry: No new strawberries to report on. It takes several years to test a variety and see if it is valuable. Boyden's No. 30 proves valuable with us in every respect. It is a strong grower, and does not turn its foliage. It has a magnificent berry, equal to the largest Agriculturist, uniform in shape, bright color, firm enough to carry well; berries will press, a little one above the other, without the juice running or bleeding; does command a higher price than any other we grow. One shipment brought 38 cents per quart right through.

P. T. Quinn: We have grown it several years. It is a very fine grower, large leaf, strong and robust; a first-class market berry with us; looks well.

Jno. S. Collins: I cannot recommend that variety, on my soil; I get ten quarts of the Wilson's to one of the other. The Wilson does better than any other of the new varieties.

Josiah Hoopes: The Triumph de Gand, upon heavy soils, bears crops equal to the Wilson.

A. S. Fuller: In hills or rows, the Triumph de Gand bears equal to the Wilson;

but let it grow in beds, and I get nothing except on the outside rows. On light soil, with extra culture, it will also do well, but must be mulched.

Mr. Harrison: The Triumph de Gand and Wilson in garden culture, over a few years, have borne with me about the same, 6,000 quarts to the acre; the shoots are two feet apart each year, and the plants grow so large as actually to touch; it is better this way than in thick matted beds. The Wilson in the third year is hardly worth growing; keep off all runners; mulching is next important to manure.

A. S. Fuller: Can we depend upon more than two crops of good fruit from the Wilson?

E. Satterthwaite: The Wilson has never paid me at all. My best strawberry is the Jucunda; I did not get less than 60 cents per quart last season, and it paid me at the rate of \$2,000 to the acre; the Wilson, not a hundred dollars. The Agriculturist has been very satisfactory for years. I do not get one-tenth the returns from the Wilson that I do from my other varieties.

The *Green Prolific* is a great grower; does not cost one-fourth to keep weeds out of the bed; it grows so luxuriantly that it covers the ground and keeps it clean. The costliest item in strawberries is keeping the ground clean.

A. S. Fuller: The Jucunda will not grow with me on either light or heavy soils. The Wilson will suffer from over-feeding sometimes. I manured heavily once, but it bore a few large berries, rest small. I think the Wilson has more sugar and more acid, too, than any other, and that is the kind of quality which seems to characterize the popular choice of varieties.

D. W. Herstine: Boyden's No. 30 has my highest opinion; I have picked such fruit as I never saw before, and think it will supersede them all; have been very successful with it under glass, growing larger than any other variety.

E. Satterthwaite: The Charles Downing is very productive, a splendid grower; not valuable for market on account of color, but for family, superb.

William Parry: My list has been reduced to four varieties—Wilson, Boyden No. 30, Charles Downing and Kentucky. The Charles Downing takes best care of itself, in hot, burning weather; its foliage will not suffer in a hot, dry time; it runs and covers the ground; we have to feed them, of course, using good stable manure; we spread manure over the plants in winter, covering them as mulch; the berries grow up through the straw.

T. C. Andrews: I have fifty varieties, and have come down to three—Wilson, Charles Downing and Kentucky. The Downer's Prolific used to be the largest.

Raspberries.

Mitchell: What is the matter with the Souchet Raspberries; they have all gone out of fashion?

Josiah Hoopes: I believe they can not be surpassed for family use; they must be laid down and covered in the winter, and then they will pay.

Chas. Downing: My opinion has been asked of the Herstine—it is not firm enough for market.

Josiah Hoopes: As far as size and beauty are concerned, I can testify to it.

Mitchell: A neighbor who has fruited them is delighted, very enthusiastic; he

cut them down last fall, and fruited them this year from the few eyes that were left.

William Parry: They have fruited with me very satisfactorily. The Herstine is superior to anything we have—the best out of 100; the fruit is large and firm enough to carry any reasonable distance.

The Pearl, and others half the size, will be more solid and carry better. I believe it would pay to send fruit picked with the hulls on. The Herstine will carry as far as any raspberry.

William Saunders: The imported varieties have disappeared entirely; they do not stand our hot sun.

H. T. Williams: What of the Susqueco? I have heard much of it near Wilmington, Delaware. Brings very fair prices; is very firm. I have grown thirty varieties on my own farm, and cleared them all out; it does not pay me to grow them. New raspberries appear to do best only in the locality where originated.

A. S. Fuller: To grow the Susqueco, cut off all the suckers; it is of dwarf habit; but well grown, it is the perfection of color and firmness. It is a little curious to observe the comparative hardness of raspberries. My brother, on the shore of Lake Ontario, had forty varieties, and never protected one. In a plat of five acres, during the severest weather, they stood as hardy as an oak.

Josiah Hoopes: The Susqueco and Brandywine are the same. Mr. Edward Tatnall, of Wilmington, has grown it for many years.

Currants.

Chas. Downing: The old Red Dutch is, in my opinion, the very finest of the family; the best variety we yet have.

P. T. Quinn: We have over-estimated the *Cherry* and the *Versailles*. The secret of success is in good culture and keeping the ground clean. I have seen the Red Dutch as large as the Cherry or Versailles. If I were planting ten acres, I would plant eight in Red Dutch; out of forty varieties, tried for six years, we estimate the Red Dutch the best.

E. Satterthwaite: I have found the Cherry the best and most profitable. I give the Red Dutch and Cherry the same culture; but my Cherry currants bring double the market prices of the other, and cost but one-half to pick; my men will pick two quarts of Cherry to one of Red Dutch, although the Cherry will yield but a little over one-half the produce of the other.

H. T. Williams: Currants will not do well on light soil unless well mulched. I have observed that a very successful grower near Boston, Mass., has his currant field entirely under the shade of his apple orchard. He will grow no other kind than the Versailles; gets 15 to 20 cents per pound, and averages \$600 per acre. In our New York market, the Cherry currant will often sell for 15 cents per pound, when the common Red Dutch will bring but five cents to eight cents.

Gooseberries.

A. S. Fuller: I would not plant Houghton, as long as I can get Smith's Improved. In picking, my men take common cheese boxes, large, then put on buckskin gloves, and shell the berries off, stripping the stems clean. At \$1.75 a bushel, they pay me well.

H. T. Williams : The best place I have heard yet to grow gooseberries is in South Jersey. Gooseberries from there come into market just at a time when they can get a good price, \$4 per bushel.

P. T. Quinn : On the other hand, I have seen 1,000 barrels thrown overboard, when there was no sale. I do not believe it pays to grow them.

Chas. Downing : They ought to be all dumped into the river ; the poorest fruit that grows.

T. C. Andrews : I have never had any difficulty in selling. They are one of the most profitable fruits I have ; and prices steadily advance down to the end of the season.

New Grapes.

D. W. Herstine : Have grown eight or ten of the Rogers' Hybrids. No. 4, or Wilder, has given best satisfaction ; is the most valuable of all the newer varieties, and quite an acquisition. The Martha is a very vigorous grower, but I don't like its quality.

Chas. Downing : Of all the newer varieties, I esteem the *Croton* and *Senasqua* among the most valuable.

P. T. Quinn : I have never been sorry that I helped give the Greeley prize to the Concord ; it is better to have an abundance of fruit than to have a scarce supply for the sake of getting the first quality. The Concord is, to-day, the most popular. I always have plenty of fruit from it, and can give enough to my friends ; while the Iona is always on the sick list.

William Saunders : A wooden canopy placed over the trellis of vines, will make a difference of ten degrees in the atmosphere between the vines immediately under it and the air outside. It is a very effectual preventive of mildew. In general, those grapes will succeed which have hardy foliage.

Josiah Hoopes : All diseases in grapes are due to fungoid diseases. The fungus cannot be attributed to dew ; for in California vines grow finest where there will often be the heaviest dews. The climate suits them, being most moist just when the vines are starting ; with us, we have the coldest and driest winds.

Mitchell : A great deal of the failure is attributable to our climate ; for the Maxatawney has perfected its fruit in a hot-house ; while a branch from the same vine, trained outside the house, has mildewed.

Josiah Hoopes : We could grow Delawares in Pennsylvania, ten years ago, and though the climate is the same now as then, still we cannot grow them.

Blackberries.

William Parry : The Lawton has been vastly improved upon by the introduction of the Wilson, Dorchester and Kittatinny. The Wilson does not succeed uniformly throughout New Jersey ; but in our section it is the most profitable. The Dorchester is of very fair value, early and quite productive. The Kittatinny is good to finish out the crop. The thornless varieties rarely produce any fruit. The *Wachusett* is not entirely thornless ; but, in my opinion, any absence of thorns is an absence of vitality—such are of little value ; they are not as strong ; plenty of foliage with strong thorns, means strong, productive plants.

Jno. S. Collins: I do not yet know anything better than Wilson. There was a partial failure of the crop this year. We had a dry time when the plants were in blossom; but 150 miles off, the berries were better than near Philadelphia.

A. S. Fuller: The Wilson is not reliable where we are; but the Dorchester and Kittatinny can grow in any part.

H. T. Williams: In Delaware, several growers have complained of the ravages of a small worm, which eats into the plant near the ground, and then gnaws up the pith. The Wilson has been our most popular variety; but in the market, this year, the Dorchester took the lead, as the Wilson looked so poor and berries so small. For eating, I like the Kittatinny best. It pays to grow all three—for then you will be able to suit the market somehow.

Improved Method of Growing Small Fruits.

E. Satterthwaite: I do not know any improved modes; it is just hard work and plenty of manure. Strawberries in hills have never been a success with me.

Meehan: I remember the Gooseberry, as grown in some old country garden. Mulching, with cornstalks, old boots, tin cans, seems to be all the treatment they received, and made them very successful; it affords just the cool soil they need.

Parry: Hill culture has never succeeded with me. I mark furrows two and a half feet apart, then make a composition of ground bone, marl, ashes, etc., let the whole compost work and ferment, then plant the strawberries on the ridge between the furrows, which are thirty inches apart, allowing one foot for an alley—it leaves eighteen inches for fruiting. We get five times as many hills in the same ground. Mulching with stable manure protects them from the severity of the weather, and the winter rains bleach the straw clean.

H. T. Williams: Stable manure used with us in that way would fill the ground with too many weeds. We would rather put a good shovelful of manure under each hill at time of planting, then top dress with bone meal every year after gathering the crop. Mulch is the only way we can get good crops. It keeps the ground cool, keeps the fruit clean, and, in dry seasons, helps fill out the size of the berries very materially. By manipulating your mulch, you can have your berries early or late—by having mulch thin or thick.

Saunders: I saw a very fine patch of Triomphe de Gand grown entirely on the hill system. As to cultivation, I believe that the roots should not be disturbed from August 1st to the time when the crop ripens.

A. S. Fuller: I have always succeeded best on the old system with hill culture.

Harrison: Pistillate varieties, I have observed, seem to be those which succeed best on the hill system. Hovey's seedling particularly.

Herstine: The row or bed system may pay for market, but the nicer varieties—Triomphe de Gand, Boyden's No. 30, Agriculturist—to have a fine crop, and extra fine berries, must be grown in hills. The Wilson, grown in hills, with me will yield double what it does in rows.

Satterthwaite: I grew on half an acre, of Agriculturist, at the rate of 300 bushels per acre.

Meehan: It depends upon circumstances which is the most profitable. The dead

portion is above the soil and weakens the plants; the plants also have a natural tendency to grow out of the soil, and I believe that if you will add soil, hilling up higher year by year, they will bear better the fourth or fifth year than at first.

H. T. Williams: I have observed two curious and little practiced methods lately. The first is to cut off the leaves of the strawberry plants immediately after fruiting and let new tops grow again. In every case that I have yet heard, where it had been practiced carefully, it has been a success. One garden cultivator, in Central New York, told me he had tried it for eight years, never taking up the plants, and they seemed to grow better every year.

The second method is *mulching* blackberries. I have seen a bed of one acre lately which is mulched with straw and shavings to the depth of four inches, never disturbed. The crop of fruit averages the owner from \$150 to \$300 yearly, and he does not spend \$10 for labor yearly.

Quinn: Mulching Pears keeps the weeds down, saves the falling fruit from injury. I use it upon forty acres; it costs me \$2.50 per ton; I gather the fallen fruit, and they look as nice as if gathered by hand; the ground, where mulched, is in the very best condition, not a compact surface; nice, friable moist soil, and the effect, in filling out the fruit at time of ripening, is admirable.

A. S. Fuller: As salt hay is difficult to get, I see no reason why every fruit-grower should not grow his own mulching. There is a large list of grasses to choose from. Sorghum, even, you can grow cheaper than to haul it ten miles; it is just the thing, and in right order to go on the soil as soon as cut.

Satterthwaite: The cheapest with me is rye or wheat straw. I use twenty to twenty-eight tons of straw upon a few acres; to keep the weeds down it must be put on so as to smother them effectually.

A Stranger: I have seen and grown strawberries with their tops annually cut off, and have always been successful. You must take care, however, not to touch the green crown; the plants might appear as if you had cut all life out of them, but they will always grow after it, and make a beautiful stand by fall.

Pears.

P. T. Quinn (notes of short address on Pears): We must make up our minds to one thing, and that is, certain varieties can succeed best only in certain localities. I can safely recommend, for all parts of the country, only six kinds. If you want to plant pears, go to your neighbor and learn what he has succeeded with, and then make a start. Do not be led into the error of planting thirty to fifty varieties. I would to-day be several thousands of dollars better off if I had let so many varieties alone.

Soil is an important item. It should be well drained naturally or artificially, and then there should be thorough culture of the soil to the depth of eleven or twelve inches.

Over-feeding.—This is one of the most atrocious policies, and has done most harm, viz.: killing young trees by kindness. You want most a healthy growth, by which at the end of the season your wood is thoroughly matured. Plant one-year-old trees under all circumstances. Trees, as usually taken from the nursery, are got out by force; in one-year-old trees you have less roots, hence less damage in getting them

out. You can send by freight 300 one-year-old trees for the expense of 100 two-year-old; and when the trees are planted, they make branches to suit their surroundings. One other thing is to be remembered, that, in older trees, the stoutest limbs, as trees are found in the nursery, are all on one side, while the one-year-old trees have a chance to grow their branches evenly all around.

Dwarf or Standard Trees.

After seventeen years' experience, I have come to this conclusion: dwarf pears are not a success in the orchard, nor as profitable any way as standards. In field culture (I am not referring to garden culture, where dwarfs are proper) the results have been in favor of standard trees. All my planting has been done with standard trees, except the Duchesse D'Angouleme, which I would plant so deep that it will take its roots from its own stock. In that variety (Duchesse) I have never got as large pears nor as good quality from the standards as from the dwarf trees; but all others I would plant standard.

Varieties.

The Bartlett does best in most localities I have yet seen. Those who plant for profit, must look to the place where they are going to sell it.

The Urbaniste does not bring with me any more money than the old Bell.

The *Belle Lucrative* has sold in the market as low as \$2 per barrel; while Bartletts are worth \$10 to \$12.

The commission men are as good judges as you can pick out for such questions of market sales; and it is the only safe plan to choose only those varieties which have a well known market value.

Manuring and Pruning.

Pruning, while the tree is young, is very advantageous; it helps to build it up, enables it to form a good top, and bear large crops without any strain; when your orchards are in bearing prop them up, or else the trees will be disfigured.

Keep the surface well disturbed; potatoes are the best crop to grow, if any, till the trees come into bearing; then devote your entire ground to the trees.

Preparing for Market.

The Louise Bonne needs thinning, for it will bear two or three times as much fruit as will attain good size. When the fruit is as large as walnuts, we go and thin out from one-third to one-half. With the Duchesse, the ground, after thinning, is sometimes completely covered over; yet, when I sent the matured fruit to market, it was large, fine, well assorted, and well packed; and I have averaged \$4 per bushel by the 1,000 bushels.

Assorting.—Three sorts of pears should not be allowed to go into the same package; if one brand is good and kept up, it becomes known in the market sooner than any one has any idea of.

It is better to have the large ones in the middle of the barrel than on the top, let all your fruit be *hand picked*; keep the stems on; a pear without a stem is like a man without a hat—it is not finished. I sent two barrels once to market, packed like potatoes, big and little all together. The commission man told me when I called, "you do not know how to pack," and then took one of the barrels, turned it upside down, took out the pears, reassorted them, put a clean white piece of paper on the

bottom, then set the pears upon it ends down; he filled the barrel up carefully, and after nailing the end, reversed heads, so that the lower head was now first. A customer came—both barrels were opened; he would not take the poorly packed barrel at \$10, while he took the new one at \$15. This taught me a good lesson to pack my fruit well, and have it nearly of the same size.

Will Pears Pay?

It depends more on the man than anything else. If you put your trees out and leave them to themselves, they will not pay of course. Neither will a list of 75 varieties pay. Neither will they pay without suitable soil; but if there is a judicious selection of soil, climate and varieties, and it is followed up, they will pay handsomely. Begin in a small way, but do not go too large.

How Far to Plant Pears Apart.

I am in favor of close planting, 16 by 16 feet—all standards.

Meehan: How about grass culture?

Quinn: I had six rows once of my orchard trees, four years old, in grass; timothy and red top were sown; the grass was cut and left on the ground; then we, in addition, top-dressed with bone meal; the trees were in grass five years, but they lost in size, and I doubt if I ever got from my 240 trees, 20 bushels of first-class fruit; the grass theory amounted to nothing; the trees neither grew well nor bore well; I have been obliged to tear the ground up with the plow and furrow.

Satterthwaite: I planted 6 by 8 or 10 feet. I see I made a mistake. Pears on quince roots, I find to do as well as on pear roots; but then I do not keep them dwarf. I would not discourage planting dwarfs; they will become standards in time. Standards and dwarfs put out at the same time, on my place, are now of the same size.

Quinn: Many are anxious to have their trees bear early. This is a great mistake, and most serious in its consequences. I would clip off all fruit until it gets to be five or six years old. We should aim to get stability first.

Charles Downing: I would prefer to have standards than dwarfs, and not let them bear under six or eight years.

S. B. Parsons: My experience is very averse to dwarf pears. I had some four acres, which I planted 10 feet by 10, with Duchesse, Vicar, Winter Nellis, Lawrence; they grew well—and in the third year were very beautiful. The Vicar bore bountifully two years, and then grew beautifully less. I tried everything to keep them in good order, and then sold the whole lot. But my standard pears have always done well. Lawrence brings me \$15 per barrel, and seems to be growing better.

Harrison: There is considerable difference in quality in the way they are grown. Bartlett's on dwarf are not as good as on the standard; the latter are much finer grained and more solid.

The dwarf cultured pears are musky and sometimes waspish flavor, very repulsive to me.

The sessions of the Society closed with addresses from A. S. Fuller and Thomas Meehan.



Editorial Notes.'

Wier's Trap for the Codling Moth.

This seems to be universally commended. Parker Earle, in an article to the *Tribune* upon the Codling Moth, speaks highly of it, and says it has been tried upon a large scale with triumphant success. While we do not see anything in it sufficiently novel to warrant the claim of a patent, still, it is true traps of this kind have always been efficacious. Mr. Earle has referred to the experiments of Dr. Jas. Weed, of Iowa, who has simplified the cloth trap by using narrow strips of cloth about an inch and a half wide, one end of the strip being tacked to the tree by a small nail, over which the other end fastens by a simple slit in the cloth. These cloths are carefully unloosed, and the worms, in or out of the cocoons, killed with a small knife. The doctor has used this trap successfully for two or three years. He captured over 9,000 worms in his orchard during five daily examinations the last week of June, in 1870, employing labor that averaged just one day to the thousand worms. Many other gentlemen have reported a similar success. Mr. Riley averaged a catch of 50 a week on one tree during the cocoon-spinning season. As each worm represented a ruined apple, and as a thousand apples should fill about two barrels, we can estimate to some extent the power for damage possessed by this loathsome little pest.

As Mr. Earle's article is very valuable, we may quote portions again.

Reports of Horticultural Societies.

We do not usually have room for detailed reports of Horticultural Societies, but two very valuable meetings were held in the early part of January, reports of which are worth preserving. So we give this month notes from the meeting of the Pennsylvania Fruit Growers' Association, and soon will follow with that of the Western New York Horticultural Society. As a more than usual attendance of prominent horticulturists was present at these sessions, so there was a large amount of valuable practical information elicited, which is well worth reading.

The Dishonors of Horticultural Criticism.

We have never seen the dignity of the profession of horticulture receive so sad a blow, nor the dishonor of horticultural criticism so forcibly illustrated as in some articles we have noticed recently written by F. R. Elliott, of Cleveland, Ohio, to the *Gardener's Monthly* of Philadelphia, and the *Southern Planter & Farmer*, of Richmond, Va.

If it has come to this, that our best horticultural writers can not maintain their leading position in the pomological world without continually hurling mud or miserable epithets at their neighbors or the editors of the press, we will sadly lay down our pen in the cause of horticulture, regretting that the high honor and dignity of the profession are gone.

Constantly we have pruned all horticultural criticism from our pages, for we do not want them sullied with the temporary asperities and dirty slang of men who forget the ordinary rules of politeness. If it is not possible for contributors to address each other in the tone of ordinary civility, and within the rules of a fair courtesy, we must disclaim them from being part of our company.

If other journals would do the same, and help put a stop to this growing practice of vindictive writing, we believe our horticultural journals would be far more useful, and remembered with more permanent and genial memories. The articles we have referred to above, do more dishonor to the writer than the parties to whom or concerning whom they were written.

The Western Pomologist.

This is now the only Western Pomological Journal. It commences the new year with a change for the better in the make-up of its pages, and broader lines of reading matter. Friend Miller is a pleasant gentleman, and deserves to be encouraged.

The American Farmer.

This was discontinued a year ago. It now has been republished in a form more attractive than ever, returning to the magazine size. Published by Samuel Sands & Son, Baltimore, Md.

The Rural Southland.

Dr. H. A. Swazey has consolidated his *Southern Gardener* with this Southern weekly published at New Orleans. We need only say he has a very excellent horticultural department, and the *Southland* itself is a very estimable paper, the best weekly, in fact, south of Philadelphia, for agricultural, horticultural, or home reading.

The Quinn Pear.

Specimens of this new variety were exhibited at the recent annual meeting of the Pennsylvania Fruit Grower's Association, in Philadelphia. Although it is supposed to be a seedling of the Seckel, it did not seem to us to be very high flavored. And the flesh was coarse, not very juicy. It is of handsome shape—a fine russet color, and ripens at a time when good winter varieties are in demand. Will keep down to March.

The Dychouse Cherry.

H. T. Harris, of Stamford, Ky., in an article to the *Agriculturist*, respecting this tree, says it is not the Early May, as pronounced by many; both kinds are growing side by side. And though there might appear a slight resemblance in the fruit, yet there is a remarkable difference in the trees.

"They differ in shape of tree and time of ripening, also in color and shape of fruit on my grounds: as to hardiness, there is no comparison, the Early May being killed, while the Dychouse yielded a full crop. The first is quite tart—admirable for preserves; but when fully ripe is perfectly delicious."

A New Plant for the Flower Garden.

The *Agriculturist* calls attention to a new plant, the *Glaucium Corniculatum*, or Horned Poppy. "We had it last year, and certainly saw nothing finer in its way. It forms a dense tuft over a foot across, of beautifully cut acanthus-like leaves which are of a most charming silver-gray color. It is highly ornamental, whether grown as single specimens, or as an edging to the flower bed. With this as with many other plants grown for the beauty of their foliage only, the flower-stalks should be cut off as soon as they appear. In its wild state it is an annual, but by preventing it from flowering it may be made biennial, as it is perfectly hardy. There is no beauty in the flowers, and if the plant is allowed to bloom it becomes irregular and ragged. When used for edging, well-established plants should be employed, and these can only be had of a proper size by starting them early in the greenhouse or hot-bed.

The War of the Roses.

There are now three "Late Roses" (Potatoes) in the market, and we do not yet know which is ahead, or whether any of them are worth having.

The Cost and Profits of Grape Raising.

The vicissitude of grape raising would form material for another volume, equal in humorous interest to that of "Five Acres Too Much;" and, perhaps, the serious side of the former subject might show a series of disappointments considerably more disheartening than those of the other.

We see in a recent report of the Adams County Horticultural Society, Ill., the subject of grape raising was discussed.

One member said that he had a fine vineyard, and had raised but three crops; the first netted him eight cents, the second ten cents, and the third five cents per pound.

Another man had 2,600 vines on $2\frac{1}{2}$ acres of ground. His vicissitudes had been great. The third year after planting, his crop averaged 26 cents per pound; the fourth year, only \$80 for the whole; fifth year, none at all. His vineyard had cost him besides land, labor, vines and planting, the sum of \$600 alone for wire trellises. Thinking that the difficulty might be in training, he cut loose from the system advocated by Fuller, and which he had hitherto practiced, and left seven canes to the vine, which he cut off at the top of trellis; in the sixth year he had an immense crop, the receipts being \$1,000, and covering all expenses of planting up to that time.

Another man had one acre of grapes, which cost ready staked for fruiting, \$1 each, or 900 Concord vines, six by eight feet. In 1870 he averaged seven pounds to the vine, and realized seven cents per pound—or \$441 for the crop. In 1871 they bore fourteen pounds per vine, and sold for three cents per pound. Total expense per year, \$60—grew only four canes to each stalk. While some thought it would pay to raise grapes at three cents per pound in bulk, yet it would not if they had to be carried ten miles to a market.

Stakes were believed to be the very cheapest plan for training, and good white oak staves will last four years.

"The Garden."—English Horticultural Journals.

William Robinson, the distinguished author of "*Parks, Promenades and Gardens of Paris*" (perhaps the most elegant book on the subject of public Landscape and Gardening improvements in Europe), has issued a new horticultural journal in London, titled *The Garden*. Copies of it have reached us, and we have carefully glanced over them. It is intended to be highly illustrated, and printed in a handsome manner upon tinted paper, with a general appearance of taste and neat arrangement. We have no means of knowing the taste of English gardeners or lovers of rural literature whether it will be a success or not, but it deserves eminent credit.

We consult with pleasure every month the columns of the *Gardener's Magazine*, *Journal of Horticulture*, *Florist & Pomologist*, *Gardener's Chronicle*, *Villa Gardener*, etc.; each are managed after their own methods, but somehow we find in the *Gardener's Chronicle* more to lay aside for future reference than any other in the way of illustration.

In florists' plants, Mr. Hibberd's *Gardener's Magazine* is superior to all, and uniformly reliable. For answers to queries and general garden operations of the time, the *Journal of Horticulture* is much the more erudite, and we should judge very ably managed indeed.

The *Villa Gardener* is a help principally to amateurs, ladies, and others fond of the ornamental. We shall look with interest to see what character Mr. Robinson's "*Garden*" will assume; but we will compliment it by saying its department of "Indoor Gardening" is much the best of all foreign horticultural journals.

What a contrast the English and American horticultural journals afford. There flowers, plants and gardening, are the principal element; here it is *fruit*, and the

profits that accrue from a horticultural occupation. But we believe there is a better time coming, and horticulture in the future will have a field much wider, more stable, and permanently attractive.

New Catalogue of American Pomological Society.

Proof sheets of the new catalogue of the American Pomological Society have been shown to us, and we feel justified in saying that when the entire volume is ready, it will both please the public and reflect great credit upon the originators of its new arrangement.

The new page will be twice the size of the old one, and the fruit lists will be thoroughly revised, and placed in a form more handy for general reference.

The Profits of Flowers.

A Jerseyman, writing to the *Boston Ploughman*, says: The culture of flowers near our large cities has usually proved a very profitable occupation. The Germans are most successful, and from small beginnings they grow up sometimes into a large business. One of the most noted cases of prosperity is that of the Wiegand Bros. at West Hoboken and Secaucus. But a few years ago they hired one acre of ground on the old De Motte estate, among the rocks, with a small house thereon. Rocks were blasted out from a part to build there greenhouses, and the whole acre was soon covered with greenhouses. As growers of roses they have no superiors, and the writer offered them \$1,000, for a single running rose-bush or tree transplanted to his own greenhouse and was refused. During the season of roses the sales from the West Hoboken houses average 1200 buds per day, \$12.00 per hundred, and at festival days and holidays the buds are sold as high as one dollar each. From all this income, they have purchased a small farm at Secaucus, and here erected eleven additional houses and filled them with plants.

Forty thousands bushels of onions were raised in the Holland settlement, near Chicago, the present season.

Hybridization of Plants.

Hon. Marshall P. Wilder gave the first of a series of lectures proposed to be given at Horticultural Hall, under the auspices of the Massachusetts Horticultural Society, on Wednesday evening, the 7th of February, upon the hybridization of plants, a subject to which he has given great attention. Col. Wilder has probably made more experiments and had a greater experience in the production of new varieties of plants by cross fertilization, than any man in our midst—perhaps than any man in the country. His lecture upon the subject was therefore anticipated with much interest, and a goodly audience attended and listened with great attention.

The different systems adopted for the production of new varieties were explained, including the theory and practice of Von Mons, Knight, and others, and the results of the lecturer's own experiments presented. This is the first of a series of addresses upon horticultural subjects which are to be delivered before the members of the Massachusetts Horticultural Society this season.

The Martha Grape.

Geo. Husman, horticultural editor of the *Rural World*, in reply to a statement made by Mr. Ellhott that the bunches of the Martha are not, as a rule, good, says that if the vine be pruned very long and then thinned out as soon as the young shoots appear, leaving only the best fruit, he is satisfied there will be no further trouble with it.

"The vine, like its parent, the Concord, will not produce its finest fruit on the heavy canes, but rather on the laterals and thinner canes. With us it is, under proper treatment, a very prolific bearer of handsome bunches."

Floral Notes.

About Roses.

A correspondent of the *Cottage Gardener* having written to fifteen of the most distinguished rose-growers in Great Britain, asking them to name thirty-six roses, and out of the thirty-six to name which they each considered the best twelve, has received their answers. The result showed that of all the roses which were named, only three were on the record named by all as worthy to be placed on the first twelve. These three roses ought to be universally known, as every one who cultivates flowers wants the best roses as a matter of course. The three are, *Marechal Niel*, *Baroness Rothschild* and *Marie Baumann*; after these come, in order, Charles Lefevre, Alfred Colomb, La France, John Hopper, Countess of Oxford, and a host of others. It is remarked that of the roses named in the list, there were 116 varieties altogether that were deemed worthy to enter into the best 36. The selection of roses thus made is worthy of being particularly mentioned, as the rose-growers who made the lists are men who have a very high standard of excellence, and are not at all likely to be deceived about the qualities of a plant which they have made a study, and have had opportunities for observing that are unequalled, at the rose shows of England and of France.

Water-Proof Glass Roofs.

William Saunders, of the Agricultural Department at Washington, says that the only way to have water-proof glass roofs is, to imbue the panes of glass in putty in the sash frames, and then secure the glass by brad nails. The woodwork is painted after the putty has had time to dry and shrink, and all openings from shrinkage are easily filled with paint.

The Tea Plant.

Mr. Saunders finds that a plant set out in the open ground at Washington, ten years ago, has grown and withstood the winters of that city, without the slightest protection, but it has not ripened its seed. Plants have been propagated by cuttings, and the seeds ripen in abundance from plants set out in South Carolina. Seeds of the tea plant have been lately imported from several countries, for the purpose of finding out which of them is more hardy and valuable than this species.

Grasses for Lawns.

Mr. Saunders also notes that he has been experimenting and observing the growth of certain grasses, with regard to their ability to resist droughts and their endurance when subjected to the scorching sun and parched soil. Of the several species tried, he has found that the grasses belonging to the *Festuca* and the *Poa* genera were conspicuously green and verdant-looking all the year round. These are possessed of very fine leaves, and are naturally of a thick spreading habit of growth, which render them particularly adapted to the formation of lawns. The species grown were the *Festuca pratensis*, meadow Fescue, *Festuca ovina*, Sheep's Fescue, *Poa pratensis*, the smooth-stalked or green meadow grass, and *Poa aquatica*, which Torrey places among the Glyceria or manure grasses.

To Destroy Insects and Lice on Plants.

Professor Glover gives the following receipt in his reports to the Agricultural Department: To destroy common plant lice (*Aphides*) and other insects in the greenhouse and garden, the following remedy has been recommended by M. Cloetz, of the Jardin des Plantes, in Paris: Three and one-half ounces quassia chips, five drams of stavesacre seed, powdered and placed in seven pints of water, and boiled until reduced to five pints.

Dr. Hall recommends dusting slacked lime on the trees or bushes when the foliage is wet; syringing with soaps-suds or tobacco water, or a strong decoction of quassia with soap-suds; also, a weak solution of chloride of lime is said by Mr. Andrews to preserve plants from insects, if sprinkled over them. The following receipt is also

highly recommended, in an English horticultural journal, as being almost infallible "for mildew, scale, mealy bug, red spider and thrips : " Two ounces flour of sulphur worked into a paste with water, two ounces washing-soda, one-half ounce common plug tobacco, and a piece of quicklime about the size of a duck's egg. Pour them all into a saucepan with one gallon of water, boil and stir for a quarter of an hour, and let the whole settle until it becomes cold and clear. It should then be poured off, leaving the sediment. In using it, add water according to the strength or substance of the foliage. It will keep good for a long time, if kept closed.

Too Many Kinds of Plants.

One of the most serious mistakes which almost every one makes in cultivating house plants, is in trying to keep too great a variety. Professional florists, as well as amateurs, fall into the same error, and the results are failures with a greater or less number of species. If the house is kept warm enough to make a certain species of plant thrive, others are likely to fail because the temperature is too high for them, and mildew and rust follow. An atmosphere in which Geraniums and Heliotropes thrive is too warm for Camelias, Heaths and Azaleas. The beautiful Orchids are certainly very tempting plants, but one needs a house especially arranged for their culture, and the same is true with many other orders, families and genera; and it is far better to confine ourselves to a few species and of these select the best varieties growing there to perfection than to undertake more than we can accomplish. I certainly do not claim to have escaped falling into this far too common error of trying to cultivate a great variety selected for a wide range of families; but each year I resolve to lessen the number and come nearer perfection with the remainder. Ladies often complain of certain plants failing under the best care they can give, while others succeed perfectly, which only shows that different plants require widely different treatment.—*Rural New Yorker.*

A Present of New Plants.

The plant house at the Amherst, Mass., Agricultural College has been enriched by a present of 67 new plants, mostly tropical, from the government botanical garden at Washington, and presented by Mr. Saunders, of that institution. There is a mahogany tree about a foot high, in the collection, and an unknown plant has been received from Hayti. The banana plant has a large cluster of first fruit, which will ripen in about two months, and the sago palm has its first bud, although it has been at the college for four years, and was owned by President Clark some time before.

Ammonia and Flowers.

A Massachusetts lady last year made \$500 from the cultivation of lilies in a corner of her garden. An experiment was lately made by Vogel upon the influence of ammonia upon the colors of flowers. Eighty-six species and varieties were exposed under a glass bell, to a mixture of sal-ammonia and lime-water, the fresh flowers being placed at the same height in all experiments. As a general result a difference was appreciable between the action of the gas upon the colored matter deposited in granules, and that forming a solution, the effect being much less in the former than in the latter. In most cases the changes produced agreed closely with those which the coloring matter of the flowers passed through in the course of withering; and even in actual withering and fading there is the same difference to be observed between the soluble colors and the granules.

Geraniums.

The Geranium is very readily propagated by cuttings at almost any season of the year—those made in the fall and kept in some moderately cool, airy place through the winter producing the best summer blooming plants, while cuttings struck in the spring will give a fine show of bloom the ensuing winter. And the same principle

holds good in regard to pruning older, well established plants—prune in the fall for summer bloom, and in spring for a full development of flowers during winter.

Any good, light, rich, well drained garden soil will grow the Geranium to perfection; the *exposure*, especially of the double varieties, being almost a matter of indifference. The single and variegated or blotch-leaved varieties, are benefited by a little shade in the middle of our hottest days. Most varieties are naturally a little straggling in their habit of growth, but there are few plants that bear pinching better than this, and by pinching the most uncouth grower can be transformed into a model of symmetry. Pinching, therefore, performs two important offices at the same time—it not only improves the form of the plant but vastly increases the production of fruit or bloom. A main point in a perfect Geranium plant is that the *stem* must never be in sight, that it must be wholly hidden by the mass of healthy, well distributed foliage, and the height must not exceed the breadth—that with the top of the pot or surface of the ground as a basis, the plant should, in fact, form a deep half-circle, which, in well grown specimens, should be from two to three feet in diameter. While in bloom the plants require considerable water, but when they once go into winter quarters the soil should be kept as dry as is consistent with the continued life of the plant.—*The Rural Southland*.

Cannas.

Numerous species of Cannas from tropical Asia and America have been introduced into cultivation, and by hybridizing and crossing, a large number of garden varieties have been produced. We have now kinds varying in height from two to eight and ten feet. The foliage varies not only in length and width, but presents different shades of green, from light bluish to brownish green, and several have leaves of the richest purple color. The flowers, too, have been much improved, and in many instances are really handsome. They range in color from lemon-yellow to deep crimson, and some are finely marked and mottled.

To be sure of an effective group, one should procure the roots of named varieties, the colors and heights of which are known, as the taller ones should occupy the center of the group, and a proper contrast should be made with the colors. Plants may be raised from seed, but they grow so slowly when young that but little effect can be produced the first year. The seeds being scalded and sown in a hot-bed will germinate readily.

Named plants may be had at from twenty five cents to one dollar each, according to their variety. They should be put out only when the soil is well warmed and all danger of frosts is over. If forwarded for a few weeks in a hot-bed, all the better. The soil in which they are planted should be well enriched, and the plants ought not to be crowded. Three feet from plant to plant is quite near enough, as during the summer they throw up an abundance of suckers, and even at this distance the space at the end of the season will be well filled. The direction to take up the plants when the frost has killed the foliage is a mistake. If the stems are much frozen the roots do not keep well. When the early frosts came we covered our bed with a blanket, held up by a pole placed in the center, with others at the corners. By this treatment we were able to enjoy them for some weeks longer than if we had allowed the frost to nip them. After the first frosts we usually have several weeks of mild weather, and with a little care the season may be prolonged. When freezing weather is anticipated take up the plants, being careful to preserve the labels, put them in a shed to ripen off, and when the leaves have withered, cut off the stalks, shake the earth from the roots, and then place them in a dry cellar where they can be now and then inspected. They will keep better where it is warm and dry than in a cold and damp place. Examine the roots occasionally, and if any decay appears cut it out, and remove them to a drier place. Not only do Cannas produce a fine effect in groups, but single specimens here and there in borders make a pleasing variety. The florists' catalogues describe the leading varieties.—*Hearth & Home*.

Worms and House Plants.

A Western correspondent who, in the neuter gender, as "A Lover of Flowers," writes: "My plan for expelling worms from flower-pots is as follows: To two gallons of water I add about ten drops of liquid ammonia, and use the solution to saturate the soil. The effect thus far has been entirely satisfactory. The worms are expelled through the aperture in the bottom of the pot. An excess of ammonia is injurious to house plants."

Horticultural Notes.

An Immense Fuchsia.

The following extract is from the *London Floral World*, where it speaks of a fuchsia growing out doors all winter in the south of Ireland:

"Friends who have lately visited me here (Valentia) encourage my conceit about the size of my fuchsias. I have just measured one plant of *Riccartonia* which was planted in the year 1854 on a sloping grass bank in my flower garden. It measures just ninety feet in circumference, taken around the extremity of the branches. It would certainly have measured eight or ten feet more if it had not been cut away to prevent it from encroaching on a gravel walk. The garden slopes to the sea with an easterly aspect. The plant in question stands, perhaps, ten or twelve yards from the edge of the sea bank."

Apple Crop of Iowa.

The apple crop of Iowa this year is estimated at a million and a half of bushels; three years ago it was but one-third as much.

New Plants.

At the show of the Royal Horticultural Society of England, a new hybrid *Coleus* was brought out, named *Coleus Tryoni*, in which the variegation, which has usually been distributed longitudinally, is in this instance transverse, the half of the leaf near the leaf-stalk being a rich glowing crimson, and the other a bright golden yellow. This new plant received a first class certificate.

Raspberries Yield.

We kept an account of the yield of some of our raspberries, which is as follows:

Clarke	1.08	Q.	per stool of 2-3 canes.
Belle de Fontenay51	"	" " "
Naomi	1.53	"	" " "
Surpasse d'Automne	1.56	"	" " "

The Clarke were horizontally tied to wires, the ground kept clear from weeds and suckers, but not mulched, as the wires run in the center of two rows, and the canes were bent over to the wires, so that the ground was perfectly shaded; the patch received a dressing of liquid manure during winter, and a top dressing of wood ashes in early spring; part of the patch was not tied up, and the difference in the size and number of the berries was at least one-half.

The Belle de Fontenay was similarly treated to the Clarke, but not tied up, while the ground was slightly mulched.

The Naomi had a heavy mulch of fine old hot-bed manure; otherwise it had the same treatment.

The Surpasse d'Automne received a heavy mulch of well rotten cow manure in fall, and an additional mulch of spent hops in spring; the canes were not tied up; last fall we took all the suckers up and gave a severe root-pruning, and let this spring all the suckers go, for the sake of getting all the plants we could; to counterbalance, at least in part, the effect of these suckers on the fruit, we gave, as already men-

tioned, a double mulch. The delicacy of flavor and color, the great productiveness and size, will make this variety one of the most desirable for the home garden. The second crop will soon be on, and has for the last two years been as heavy as the first.—*Ex.*

John Johnson's Orchard.

Joseph Harris, of *The Agriculturist*, in his rambles through Central New York, visited Jno. Johnson's orchard, and found that its success is due to two things: 1st, It has been constantly kept cultivated in hoed crops. 2d. He has freely washed his trees with lye.

"Mr. Johnson's trees are, by far, the handsomest and healthiest I have ever seen; and I came back with a determination to at once carry out his recommendation. I have gained this much, at any rate, by *seeing* the trees. The plan is simply to make a lye, just as you would for soap, and wash the trunk and larger branches of the trees with it. 'If the lye was *very* strong,' Mr. J. said, 'and made from hickory ashes, it might perhaps, need to be diluted with a little water; but the lye from ordinary ashes is not too strong.' He applies it with a swab tied to a stick. A man went over an orchard of a hundred trees in an afternoon. He has done this once every two years. There is not a particle of moss, lichen, or fungus, on any of the trees. The stumps are as smooth as the standard of a mahogany table. And I do not wonder that Mr. Johnson feels proud of them.

"Still, I do not think that this splendid result is due merely to this biennial washing with lye. The land is thoroughly underdrained. It is a rich, clay loam. The trees were only two years old when set out—and a well-grown two-year-old appletree is better than a poor-grown one four years old. Then great pains were taken to prepare the land, and to set out the trees. Wide holes were dug, two feet deep; and some decomposed swamp-muck put in the holes and covered with good soil. The trees were then set out and staked, and *the land has been kept in hoed crops ever since*, and I presume has been liberally manured. And you must recollect that Mr. Johnson's manure *is* manure—not rotted straw. And the coal-ashes from the house have been put round the trunks of the trees. In short, it is quite evident that Mr. J. has petted his trees almost as much as, during his long life, he has been in the habit of petting his cows and his sheep. He is constitutionally incapable of neglecting any thing he undertakes. Thoroughness is an essential characteristic of the man, and accounts for much of his great success."

Pears for the West.

At a late meeting of the Adams County Horticultural Society, Illinois, Col. Dudley explained his experience with pears. He had planted 2,000 trees, 500 standard, 1,500 dwarfs, started out on high culture, the book culture of Eastern states, but soon found his mistake, and finds no cultivation necessary in our soil—sometimes a little early cultivation might be allowable; the rich soil has had the most blight, while the poorest soil has had the least; the experience shows no variety exempt from blight; if he had however, known what to plant at first, he could have succeeded better; he had some fifty different varieties, while five varieties would have been better. The Bartlett, Seckel, White Doyenne, Swans Orange and Louise Bonne de Jersey, standard, are the best adapted to our soil and climate, and are the most profitable, but they must be planted only on poor soil without cultivation. Belle Lucrative, dwarf, is also a very excellent variety. The Bartlett standard is preferable to dwarf. Fruit very fine. The Seckel has done well, was very promising of success until this year; it too has succumbed to the terrible blight. Some years ago had Seckel pears, the finest he had ever seen; sent some to American Institute and Farmers' Club, and they pronounced them the finest box of pears they had received; some of their members thought they could not be the Seckel. Had frequent application for trees and cuttings, but he wanted to await a proof of their success, which he finds from experiments with cuttings grafted on other Seckel trees, that they are not in any way different, but are all victims of the blight.

Swans Orange resembles the Bartlett—large, round like an orange, juicy, is a fine eater, little later than the Bartlett.

White Doyenne, productive, but blighty.

Louise Bonne de Jersey—is most regular and uniform bearer, fruit large, rich and juicy; this is one of the most profitable varieties in cultivation, he had one season received \$19.00 for the fruit off three dwarf trees by a dealer, who took them from the orchard.

As to the cultivation of pears, finds no general rule to work successfully; one conclusion arrived at is, that pears are a very uncertain thing to cultivate; has had every promise of success; within the last three years blighted; had given them a great deal of pains and labor, and at first seemed to be rewarded with a beautiful prospect, but finally the blight has made his pear orchard a wreck, rather than a pride.

High culture, manuring and severe pruning will not succeed; the only hope of success is to plant on poor soil and let the trees alone; do not cultivate them nor prune them but very little, the less the better. Sow down to grass or clover, and do not plant too many varieties.

Editorial Note.—Remember this advice of “grass culture” applies only to sections of Middle, Southern and Western States, where the soil is too rich, and growth too vigorous. In New England grass culture should in no case be adopted.

Soil for the Pear.

The *Western Pomologist* says, that a soil well supplied with sand is best suited to the growth of the pear. “If this soil is well mixed with gravel, so much the better. The almost perpendicular descent of its roots would seem to indicate a soil easily penetrated if it would grow thrifty.

“In lands of a rich, loamy character, is the very spot where the death of trees from blight occurs; hence in planting pear trees upon the *pear roots*, light, but not very rich land should be selected. Pear trees grown upon the *quince*, however, require a different kind of soil—one abounding more in clay than sand; in such lands, by having the junction of the pear with the quince, some two inches below the surface, they will bear early, produce fine fruit, and ultimately make fine large trees, by the pear taking root near the surface from its own stock.”

Pear Trees on Mountain Ash Stock.

Robert Douglass writes in the *Pomologist* in favor of the Mountain Ash as preferable to the Quince for grafting pear stock for the West. “The quince root is not adapted to the West, and will frequently be found dead in the spring when the pear tree above the ground is uninjured.”

“Robert Hassel, of Alderly, Wisconsin, wrote me that he has trees on pear stock, also on American Mountain Ash stock, *var* Flemish Beauty, and that those on Mountain Ash were the healthiest and fruited best. He also says that the American Mountain Ash is a better stock than the European.”

Clapp's Favorite Pear.

D. B. Wier stated at the last meeting of the Illinois Horticultural Society: “If there is a pear without a fault on my grounds, it is Clapp's Favorite, so far as I can judge from a short experience of three years; it is hardy, healthy, foliage good, and an abundant bearer of most delicious, large sized, handsome fruit. I think it will prove a great acquisition to the Northwest. It appears to equal the Flemish Beauty in hardiness.”

Doyenne Boussock.

D. B. Wier also says “an *old sort*,” but I must say a word about it. Though a little tardy in bearing, the tree is so perfect in health, the fruit is so large, good and handsome, that it should be better known and more extensively planted than it is.

Saving Girdled Fruit Trees.

G. W. Chapman writes the *Pomologist* the following remedy for saving trees girdled by mice or rabbits: "I made a composition of grafting wax, beeswax, rosin and tallow, in equal proportions, then procured old cloth, such as calico, or muslin, and made it into strips an inch wide, wound it into balls, just as nurserymen do for grafting, and boiled it in the composition until well saturated; I then wound it around the wounded trees, and although 400 or 500 were injured, and many gnawed all around and quite through the bark, I believe only one was lost. All have made good growth. I may add, that having used all the wax I could get, I used the rosin and tallow alone for some, and I have discovered no difference, except in the cheapness of the latter. In doing the winding, the hands should be greased to prevent sticking."

The American Entomologist.

Mr. C. V. Riley announces that this will not be continued, the publishers not finding sufficient pecuniary encouragement. It was a most excellent, practical and able journal, and we are sorry that the world had not a good hand to help it along. This makes the fourth horticultural journal suspended within three years.

The Martha.

Even Mr. Campbell (Geo. W.), the apostle of the Martha, has the candor to say "it possessed rather more of the foxy flavor than he liked;" but if left on the vine until it attained the yellow or amber color it gets when fully ripe, it loses most of this taste.

Cestrum Elegans as an Ornamental Shrub.

We call attention to a beautiful conservatory plant, possessing great merit in respect to its elegant foliage and flowers. The *Habrothamnus* section of the *Cestrum* are all natives of this Continent, a larger proportion of the species being found in Mexico. This species grows to quite a large size, forming a half woody shrub, several feet in height, with graceful pendulous, leafy branches. Leaves are placed alternately on the branches; they are three to four inches long, pointed, and deep glossy green above, and somewhat pubescent beneath. The flowers are tubular, about an inch long, borne in a pendulous raceme or cluster. Their color is a deep purplish-red or dark rose. Berries round, half to three-quarters of an inch in diameter, becoming, when ripe, a deep red or purple, not unlike a bunch of grapes, but of a brighter color.

We believe that this plant is cultivated by our florists, but the flowers are in such demand that they are seldom allowed to perfect their fruit. The *Cestrum*s are so easily cultivated, requiring only a moderate degree of heat in winter, that those who cultivate other tender plants may try these with a good prospect of success.—*Ex.*

Editorial Notices.

Floral Catalogues.

Briggs' New Catalogue is a vast improvement upon last year, and we think, from a careful glance, is much the more costly of any issued this season. It is remarkable that so much can be given for so little money. Yet the standing and reliability of the firm, and their desire to excel, lead them to neglect no efforts to produce the finest catalogue possible.

Vick's New Catalogue we waited for with impatience, knowing it would be superb, for Mr. Vick always possessed most admirable taste. The cover and the inside border printed in tints, something never before done by any florist, are gems of exquisite printing, and there is not a solitary thing to be criticised. The interest in Mr. Vick may be imagined as great, whenever we see the seedsmen so impatient (as it happened this year) to get his Catalogue.

Washburn's Annual Catalogue has a really pretty colored frontispiece of three Morning Glory Blossoms. The colors are excellent. And we need not say that the plate improves the Catalogue greatly.

Bliss's New Catalogue has grown to such vast proportions as almost to be an Encyclopedia, and we do not know its equal in completeness, nor superior in reliability. An admirable colored plate graces the front pages, and we observe a very good arrangement in the insertion of tinted sheet for novelties.

Peter Henderson & Co. also favor us with their Annual Catalogue embellished with a colored plate of flowers. And Mr. Henderson's new Plant Catalogue has a good colored plate of the new cluster rose Peerless.

Charles A. Reeser, of Pleasantville, Pa., the enterprising author of that attractive advertisement, "*A Greenhouse at Your Door*," issues a dainty little Catalogue of his new plants and flowers. His system of mailing plants, we witnessed last year, and were so well pleased with the care and safety of it, that we tried it with an order; the plants came in so good condition, we do not hesitate to call him a "*square man*."

Curtis & Cobb, issue a large and very complete catalogue, and their store at Tremont street, Boston, is one of the best kept and most attractive floral establishments we have visited.

C. L. Allen & Co., have more than doubled the size of their annual catalogue, and it contains besides flower seeds, vegetables and bulbs, a department on greenhouse and flowering plants. The firm have 60 acres planted in flowers, and their business is increasing with great rapidity.

Landreths' Rural Register.

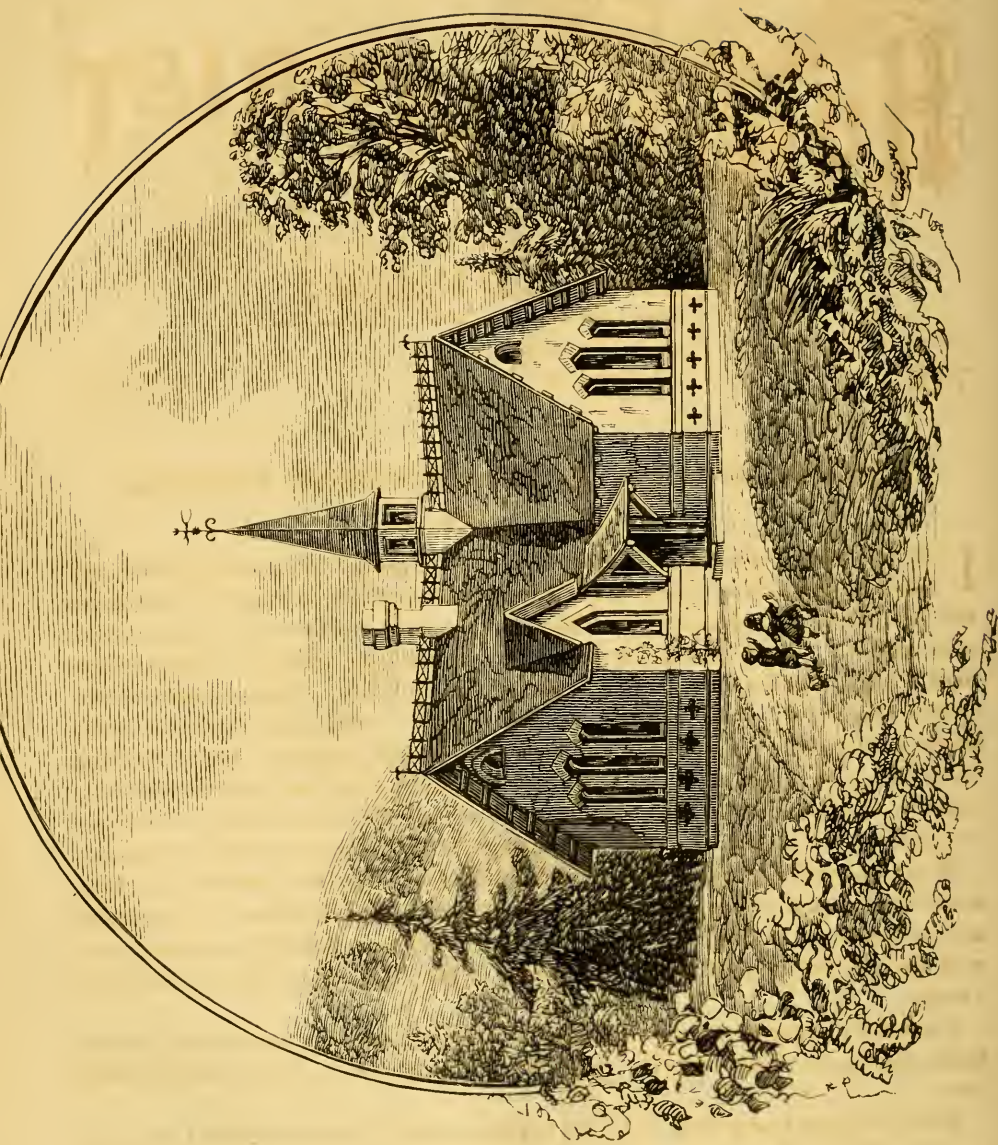
There must be some merit in a publication which has attained a popularity unprecedented, we believe, in this country. Works which reach a circulation of ten or twenty thousand are ranked as successful, and emphatically so if they double that number. But here we have a pamphlet, truly practical, indeed, of which five hundred thousand copies of the editions of 1871 were distributed. What those of the present year may reach we can only conjecture. And it is not alone in English the little messenger reaches the public eye; translations in German and in Swedish are also demanded by that portion of our rural population not yet domesticated among us long enough to speak the language of their adopted country.

What a useful lesson does the progress of the Landreths teach:—How plainly does it say, "hold fast to one business object"—"cherish one industrial idea,"—"be not diverted by the glitter of more promising pursuits than that in which we may be engaged, and which may entice only to disappoint."

More than three-quarters of a century ago, the predecessors of the Landreths embarked in the seed trade: little by little, and it was little enough, as we are told, in the beginning (at which time our confederation embraced thirteen colonies, and now grown to be forty united States)—has the business of the Landreths advanced and augmented, until now it is said to be the largest of the kind not only in this country, but in the World; and embraces six hundred acres in drilled and transplanted crops, under the personal charge of the proprietors, who, themselves, raise the seeds only of the choicer varieties of vegetables, which require special care—the coarser sorts being grown for their account by outside parties.

It is to give brief hints and instruction to their customers, greater in the number of families than was the individuals that composed the late army, that the *Rural Register* of 1872 has been printed.

We advise our readers who take pleasure in country life to obtain a copy, which may be had on the easy terms expressed on an adjoining page.—*From the Episcopal Register.*



Design for a Country School-House.



VOL. 27.

MAY, 1872.

NO. 311.

What Pears to Plant. Most Profitable Varieties.

BY E. SATTERTHWAITE.

I CONSIDER this the most important question connected with pear culture; and, unfortunately, it is as difficult as it is important, because, as every one now knows who has paid any attention to the subject, soil, location and treatment have so much to do with it. This difference in the success of the same variety in different situations is often very extraordinary and utterly unaccountable, as independent of soil, climate and culture, there seems to be some mysterious atmospheric influence which affects some varieties in particular in a most remarkable manner. White Doyenne, for instance, when grown in the city, nothing can be finer, and, when grown in the country, nothing could be more worthless. And this difference cannot be attributed to anything that is apparent, and is not materially affected by any mode of treatment.

What makes this question still more difficult, is the fact that varieties sometimes seem to undergo a change, perhaps run out, or become liable to forms of disease that are not common. Easter Beurre, for instance, a few years ago did remarkably well with me, and is now good for nothing, from a disease that has not affected any other variety.

From these remarks you may infer that I am not prepared to recommend, unqualifiedly, any special list of varieties, but will only name such as I have observed doing best.

From the light I now have, if I were to plant a pear orchard for market purposes, say of 3,000 trees, in the location I now am, at a short distance from a great market, I would plant the following varieties in about the proportion named: 20 Doyenne d'Ete, 10 Madeleine, 20 Early Catharine, 50 Beurre Giffard, 20 Osband's Summer, 20 Manning's Elizabeth, 20 Juliette, 20 Kirtland, 30 Bell or Windsor, 20 English Jargonelle, 50 Ananas d'Ete, 100 Clapp's Favorite, 500 Bartlett, 300 Beurre de

Montgeron, 100 Seckel, 100 Buffum, 200 St. Michael Archange, 300 Duchesso d'Angouleme (on quince), 200 Beurre d'Anjou, 200 Rutter, 600 Lawrence, 100 Vicar of Winkfield, 20 Doyenne d'Alencon.

In addition to these there are some 20 other varieties that I would plant a few of for the purpose of testing further. Among these I would name Pendleton's Early York, Pulsiver, Beurre Benoist, Jefferson, Muskingum, Cushing, Boston or Penneo, Gen. Dutilleul, Island, Bezé de Quassai d'Eté, Marie Louise, Baron de Mello, Doyenne Rose, Gen. Todtleben, Dana's Hovey, and some of the newer varieties. All of these last named have done remarkably well with me, and some of them would probably prove to be valuable.

The list that I have given does not by any means comprise all the best varieties, and is but a small part of what might be desirable in an amateur's collection. They are selected with the object of keeping up a succession of profitable varieties for marketing, as I have been accustomed to, largely by retail, and where it is important to keep up a regular supply throughout the season. The number of varieties is much larger than Mr. Quinn recommends, and no doubt he is right where a different system of marketing is practiced.

It will be noticed that I have named quite a number of early sorts, a few trees of each. I have found this desirable, as early pears generally last so short a time that it is necessary to have a number of sorts to keep up a regular supply. At a distance from market, probably most or all of these had better be left out. I have named some sorts that it is not fashionable to recommend on account of their quality, as the Bell and Jargonelle; but it must be remembered that we are now only treating of profitable sorts for market, and I am convinced, from experience, that some of these very productive varieties, that are only good for cooking, are amongst the most profitable. A few of the varieties that I have named, B. de Montgeron, Ananas d'Ete, Butter and St. Michael Archange, are not found in the lists generally recommended; and, as they have not been extensively cultivated, I would not recommend others to plant them largely at first, as they might not do as well generally as they have done with me, especially as my treatment of pears is different from what is generally practiced. You will observe that there are a great many varieties of unquestionable excellence, that are commonly recommended, that I have not mentioned. I will name some of these, and my reasons for leaving them out. There are a great many fine varieties that ripen about the same time as the Bartlett, and are not in every respect equal to that variety, and, on that account, are not worth planting, as it is very desirable in growing pears for profit to have no more varieties than is necessary to keep up a regular supply. And then, there are many of the finest and most productive varieties that have no beauty of color, or do not generally color well, and on that account are valueless for market. Among these may be mentioned Rostiezer, Belle Luerative, Flemish Beauty, Des Nonnes, Beurre Superfin, Kingsessing and Beurre Diel. Some varieties rot as soon as ripe, and are worth but little on that account. Amongst these I must place Doyenne Boussoek, Beurre Superfin and Flemish Beauty. Some have a worse fault, of rotting badly before they get ripe. Beurre Bose, Sheldon, and many others have this fault. There are some very fine pears, that color splendidly, too, that have such delicate skins that, with the most

careful handling, will not look well in market. The Howell has this fault. Some kinds are too small, as Dearbon's Seedling, Amire Joannet, etc. One of the worst faults that pears are subject to is a bad habit of dropping prematurely, or liability to be easily blown off with every storm. Flemish Beauty, Kingessing, Beurre Clairgeau and Beurre d'Anjou (to some extent), and many others have this fault.

There are doubtless varieties that I have not mentioned that would do better with you than some I have have recommended. Louise Bonne de Jersey is a variety that in many places does splendidly, but does poorly with me. B. Clairgeau has a high reputation, and might do well with you; it is worthless here.

While I think it a great disadvantage to have too many sorts, I would not like to be confined to so few as Mr. Quinn recommends, for the reason that the most productive and certain varieties are very liable to fail. Duchesse d'Angouleme, for instance, very often misses a crop. Bartlett, with me, is liable to injury in severe winters, and is not at all certain; so that I find it most satisfactory to have three or four sorts ripening at a time, and not depend entirely on one.

There is very much more that might be said on this subject, but as I have given to the public my experience in pear culture rather extensively only one winter ago, I prefer saying no more, at present, on that subject. After another year's experience, and during the leisure of another winter, I might be able to give more at length, as you suggest, my experience with the different varieties of pears, for the benefit of the readers of your valuable journal.

Jenkintown, Pa.



The Profits of Strawberry Culture.

ALTHOUGH much is stated occasionally about the profits of strawberry culture, yet little light is given as to the cost or the expenses. We therefore reproduce an article just written by Henry Thacker, of the Oneida Community, showing what, in his estimation, it costs yearly to keep up a bed of strawberries. He places the production of the crop at 300 bushels per acre, but we do not advise any dependence upon a steady average like that, for it is never realized year after year. Such crops are only occasional, and beginners are often misled by them:

"It is to be regretted that so few statistics are given to the public, showing the profits or losses in the cultivation of the strawberry crop. Frequent statements of this kind would be of much value to beginners and persons wishing to invest in the business. That it proves to be a profitable crop may at least be inferred from the increasing number of persons yearly engaging in the business. Our own experience also goes to show that strawberries may be grown with profit. It has been stated that in New Jersey, where the strawberry is largely grown for market, the average crop does not exceed eighty bushels per acre. It has also been estimated that the crop in other sections does not, on an average, exceed one hundred bushels to the acre. In such circumstances we can scarcely see how the crop as a whole can be a very profitable one, except on the supposition that the fruit is sold above ordinary prices. But no strawberry grower should be satisfied with the production of any such quantity per acre, when actual experiment has proved that 300 bushels of such a

variety as Wilson's Albany Seedling can be produced from an acre. A strawberry grower stated that he had the past season produced at the rate of 350 bushels to the acre, and was confident that the maximum quantity of 400 bushels to the acre may be reached.

"My object in this communication is, however, mainly to give the cost of cultivation of one acre of strawberries by the Community the past season. Here are the statistics :

35 loads of stable manure, at \$2.00	\$70 00
Hauling and spreading the same	10 00
Plowing and fitting the land	6 00
16,000 strawberry plants, at \$4.00	64 00
Cost of setting, etc., at \$1.50 per day	28 87
Cultivation, cutting runners, etc.	88 79
Cost of mulching, including the labor	24 93
Top-dressing and labor to be applied next spring	10 00
Interest on land worth \$300	21 00
Interest on capital invested in labor, etc.	20 00
Wear and tear of crates and boxes	10 00

Total cost. \$353 59

"We will now suppose the crop to produce at the same rate as that of last season, 281 bushels to the acre, which crop suffered considerably from drought during the first part of the fruiting season, and from the effects of which it did not fully recover. Reckoning its value at \$3.20 per bushel or ten cents per quart, this will make the gross receipts of one acre of strawberries \$899.20. Subtract from this amount the cost of cultivation, \$353.59, and \$269.76, or three cents per quart for picking and marketing, and there is left a net profit of \$275.85 per acre.

"Doubtless the cost of production may be materially reduced in case of a lower price of labor, which in the above estimate we have reckoned at \$1.50 per day. Manure and mulching may be had perhaps at lower rates. Then, too, the price of nice fruit, it will be seen, is placed pretty low. We have given that at which the fruit sold here last year to 'middle men.'

"But let not the beginner presume too much on statistics, showing what has been accomplished. A little experience will be found of great value in the cultivation of the strawberry. No one need expect to raise 300 bushels from an acre except on good soil well manured and thoroughly cultivated. Let me add that by no means can a thorough mulching during winter be neglected, at least in this latitude, without danger of losing the labor previously expended.

The Money Pear.

NOT a new pear, by any means, but the pear from which most money can be made, as Dr. E. Ware Sylvester says, in a late number of the *American Rural Home* :

"This pear is too well known to need a description. Its pyriform shape, its red cheek, its white flesh, its abundant juice, its semi-acid-saccharine flavor are suggested to the experienced pomologist by the mere mention of the name.

"The Louise Bonne de Jersey when cultivated on the quince, bears earlier and is

larger, than when cultivated on the pear root, but it will give most abundant satisfaction on either stock.

"It seems better adapted to the colder region of our country, for when cultivated south of the Potomac its leaves fall prematurely and the fruit is not perfected. But for Western New York it is hardy, healthy, and gives more general satisfaction than any one pear, with the exception, perhaps, of the Bartlett, and I am not willing to except even that grand old musky pear. It seems at home on the quince, and when not *murdered annually* by the knife, will bear usually the second year after planting, and every succeeding year if properly cared for.

"In one of my orchards there are four rows of Louise Bonne de Jersey, ten in each row, on the quince, and trained as half standards; they are set ten feet by ten feet, and hence occupy less than one-eighth of an acre, and have other orchard trees immediately adjoining, on the north and south, giving them no advantage on account of situation. They were planted in 1858, and are now thirteen years in the orchard. They commenced bearing very early, and I herewith append the figures of their *money* abilities for four years. These figures are not from memory but from the account of the sales of the pears as they were sold by a commission merchant, in Washington Market, N. Y.

"I am fully aware that the figures are not large; but the trees have not been stimulated with rich manure, but have been sometimes in grass and sometimes cultivated, sometimes dressed with muck and lime or salt, or both, just enough to keep a *small* uniform healthy growth; and besides, they have not been cut, slashed, pinched and nipped from one year's end to the other, but have been sparingly, and, as I think, judiciously pruned. But here is the four years' record of the 'Money Pear,' otherwise called Louise Bonne de Jersey.

"Four rows, ten trees each; (forty trees in all), ten feet by ten feet, occupying less than one eighth of an acre:

1868.		
40 crates, (bushels) at \$6.....		\$240 00
1869.		
14 half-barrels at \$6.....		\$84 00
1 half-barrel No. 2		2 50
Total for 1869.		\$86 50
1870.		
4 half-barrels at \$6.25.....		\$25 00
2 crates		4 50
Total for 1870		\$29 50
1871.		
35 half-barrels at \$4.39 ..		\$153 65
5 crates at \$1.65.....		8 25
Total for 1871 ...		\$161 90
Total proceeds from $\frac{1}{8}$ of an acre		517 90

"An acre of Money Pears at this ratio, would give an average product each year of \$1,035.80. If we deduct one-third for the expense of packages, freight and com

mission, we have left an *annual* return of \$690 per acre, as the reward of labor, interest on capital, taxes, etc. What other crop will pay \$690 per acre each year, for four consecutive years?"

A Profitable California Fruit Ranch.

CHARLES NORDHOFF writes to the *Tribune* an interesting article upon fruits of California, and more particularly gives the history of a successful fruit ranch near Stockton:

"The ranch, whose particular history I am to relate, was purchased twelve years ago by the present owner, for \$5,500. It was at that time in part under cultivation, with orchards old enough to have trees in bearing. The house in which the owner has lived ever since was already built. The ranch contains a section 640 acres, with a frontage of a mile on the river. This whole frontage, which makes about sixty acres, is in fruit of various kinds. Of this, fifteen acres are in grapes, seven in pears; the remainder is divided between apples, apricots, cherries, plums, peaches, quinces and figs. Two years ago the receipts of this ranch from all its products aggregated \$12,000. This year, though the yield is greater than ever before, the price of fruit being so much less, the net profits will not exceed \$7,000. I shall record the items that go to make up this amount, and begin with the pears. A box of pears contains forty pounds. The shipping of these was commenced the last of May. The Madeleine variety was the first sent to market. Of these, 500 boxes were sold at \$4 per box, the fruit at first selling at seven cents per pound. Next came the Bloodgood and Dearborn Seedling. There were sixty boxes of these. At first they sold for \$2.50 per box, then came down to \$1 as the season advanced. The Bartlett came next. Of these a car-load, 420 boxes, was sold to go East, at \$1.50 per box. In New York, they brought \$6 per box. These boxes contained sixty pounds. Beside these, there were 200 boxes of Bartletts sold in San Francisco at \$2 per box.

"The White Doyenne pear came next. There were fifty boxes of these, which sold at \$1 per box. Then came that little jewel of a pear, the Seckel. Three hundred boxes of these sold at an average of \$2 per box. Two hundred boxes of Winter pears, at \$1 per box, and 100 boxes sundries, not included in the previous statement, make up the list of pears.

"Cherries are generally very profitable. The yield per ton, in money, is greater than that of almost any other fruit. But through misapprehension in regard to the nature of the soil, which proved to be alkali, the cherries on this ranch proved almost a failure. Had the soil been as supposed, the profits of the cherry orchard would have been some \$4,000 per annum. As it is, only \$200 were received this year, though last year the receipts were \$500.

"There is something very strange about this alkali soil. In the pear orchard there are rows of trees extending all the way through, in which the trees are dwarfed to half the size of those that grow on each side of them, and the pears that grow on these trees are so exceedingly bitter that no use can be made of them. There happened to be a streak of alkali running through the soil just there. There were 150

baskets of plums sent to market, which brought \$1 per basket. Of figs 100 baskets, bringing from 75 cents to \$1.50 per basket.

"Of apples there were 2,000 boxes at an average of \$1.25 per box. The vineyard furnished 1,500 boxes of grapes. The Hamburgs averaged \$1.50 per box; the Muscats \$2. There were more than twice as many Muscats as Hamburgs sold."

Carrots.

BY ALEXANDER HYDE.

THE Carrot belongs to the botanical order of Umbelliferæ. In its wild state it is a noxious weed, commonly known as bird's nest, from the nest-like shape of the umbel. The root of the wild carrot is small, tough and strong-flavored. Pliny speaks of the carrót as cultivated in Italy in his day, but it was not introduced into England till about the commencement of the seventeenth century. The root of the cultivated varieties is large, succulent and nutritious; but the flavor is too strong to be agreeable to most persons, and the carrot is consequently seldom cooked separately, but is mainly used for soups. For feeding stock, especially horses, this root is greatly prized, and is cultivated in large quantities. It contains a gelatinous substance called pectin, which is thought to exert a very healthy influence on horses. Certain it is, that they are fond of carrots, and look sleek and healthy when fed upon them. A famous horseman once told us that he preferred a bushel of carrots and a bushel of oats for his horses to two bushels of the latter. The analysis of the carrot shows no such value. Carrots contain at least 80 per cent of water, while the water in oats is only 16 per cent, and, of the solid matter in these two kinds of feed, the per cent of flesh-forming and fat-forming principles in oats is three times what it is in carrots. The effect which carrots exert on horses must be attributed to their health-giving virtue, or some subtle principle which we do not as yet understand. Our own observation leads us to the conclusion, that horses that are worked lightly do better on a mixed feed of carrots, hay and oats; but when put to hard work they need more grain. When wintered without work, hay and carrots make a better food than hay and oats. Before being put to service again in the spring the allowance of carrots should be diminished. For colts and young horses, carrots are just the thing to promote growth and a vigorous constitution. For cows, also, they are excellent, producing a large flow of rich and high-colored milk. They therefore deserve a place on every farm and in every garden.

Carrots require a well-pulverized and enriched sandy loam for their perfect development. On such soil, and with good care, a crop of a thousand bushels is often harvested from an acre, though eight hundred bushels may be considered a good yield. We have found it better to raise them after a crop of corn or some other hoed crop, to which manure has been applied abundantly, as when manure is applied directly to the carrots they are apt to be forked and abound with rootlets. The soil should be plowed or spaded deeply, so that the roots may run down 18 or 20 inches without obstruction. For feeding to stock we prefer large carrots, three or four inches in diameter at the top, and with a smooth spindle body 16 to 20 inches long. For this purpose we give preference to the long Orange variety; others claim that the White

Belgium gives a greater yield. For table use, the smaller French Horn variety is preferable; it matures earlier, and the flavor is milder.

In field culture the rows should be 18 inches apart, and the carrots six inches apart in the rows. In gardens the rows may be ten inches apart, and the carrots three or four inches from each other. In either case vigilance must be exercised not to let the weeds get the start of the crops, as the carrot is of feeble growth at first, and if once choked and stunted by weeds seldom recovers. They may be sown in the spring as soon as the ground is dry enough to be worked, and four or five pounds of seed are sufficient for an acre. As the seeds are covered with a beard, which renders even sowing by a drill-harrow difficult, they should be thoroughly rubbed before being put into the hopper. The seed should be fresh, certainly not over two years old.

Johnston gives the composition of the carrot as follows:

Water	80.00
Starch and fibre	9.00
Pectin	1.75
Sugar	7.8
Albumen	1.1
Oil35
Total	<u>100.00</u>

Others make the per cent of water higher, even up to 88 per cent. Carrots, like all other root crops, draw heavily on the inorganic matter of the soil. A crop of 20 tons of roots and four tons of leaves to the acre will exhaust the following amounts of inorganic matter:

Phosphoric acid	39 lbs.
Sulphuric acid	57 "
Lime	197 "
Magnesia	29 "
Potash	134 "
Soda	103 "
Chloride of sodium	85 "
In all	<u>644 "</u>

Wood ashes are therefore a good fertilizer for carrots, as they supply all this inorganic matter. Plaster, lime, bone dust and common salt are also good, but do not furnish all the elements required.

The leaves of carrots are beautiful, and as valuable as they are beautiful. The common practice of leaving these leaves on the field at harvesting is wasteful. They may do the land a little good, but they will do the cows and horses a greater good. They are highly ornamental, used as greens, in the arranging of flowers. No green is more light and graceful. If a large carrot, in the winter, be placed in a vessel of water on the mantel, it will send out numerous delicate leaves, which will serve to cheat winter of its gloom. Another mode is to cut off the top of a carrot and partially hollow it out, so that it will hold water, and hang it up in a window, furnishing it occasionally with a little water. The graceful, living green leaves make a pleasing contrast with the general deadness of the winter.

A Country School-House.

THE illustration we present in our frontispiece, is an excellent design for an ornamental school-house, by Geo. E. Harney, architect. The architectural features are very picturesque, and with appropriate ornamental grounds there might be developed a scene of pleasing beauty. This design is intended to accommodate about 50 scholars. Both sexes are admitted to the principal rooms. And there are separate entrances for the boys and girls, and separate play grounds. *E* is the covered stoop at the boys' entrance, and *C*, that of the girls' entrance. *B* is the boys' entry, and *G* is the girls' entry. They both measure about 8 feet by 9, and are provided with hooks, etc. for clothing. *A* is the main school room, 16 by 32, and about 14 feet high. The window sills are about 4 feet from the floor, and the walls to this height are wainscoted with pine, and above it, with the ceiling, are lathed, plastered, and tinted. *D* is a room 15 by 16, which may be used for infant scholars, or as a class room. It is finished in a similar manner to the large room. The building is designed to be built of brick upon a stone base. The water-table, window-sill course, and window heads are all of Ohio stone, and the roofs are slated and surmounted by a cast iron cresting. The windows are of enameled glass, like church windows. The rooms have ample ventilators, opening into a space above the ceiling, and thence discharging into the large ventilator on the ridge of the roof.

The building is estimated to cost \$4,000.



How to Grow Strawberries.

IN spring I prepare the ground for a crop of early potatoes, manuring it so as to grow that crop well. Work the potatoes well, keeping them clear of weeds. When the crop comes off I give a light coating of manure, plow the ground deep, pick off weeds, etc., harrow and level it well. I then line out the rows three feet apart, go to the nursery bed with a flat box or basket, lift the plants with ball of earth, and carry them to the ground prepared for planting. A boy goes before with a garden trowel, digs the holes about four inches deep, sixteen inches apart in the row, immediately before the planter; he fills each hole with water; the planter drops in the plant and covers the root with dry earth, pressing lightly. By so doing, no matter how hot and dry the weather may be, I never fail to have a full crop the next season; and that is as much as you can have by spring planting. I prefer potatoes as a crop, as the ground is thereby well cleaned. I generally plant all through the month of August. I plant, on an average, 3,000 plants every season. It is very tedious, but it will pay. If I had not plants of my own, I would purchase a few hundred in the spring, manure the ground and work them well, picking off the stems before they bloom. They will have made good plants by August. In this section I find the best kinds are, 1st, Wilson's Albany; 2d, Green Prolific; 3d, Agriculturist. I have tried many others, but fall back on these. The above remarks apply more especially to growing for market.—Contributor to *Rural New Yorker*.

What to do with my Young Apple Orchard is the Vexed Question.

MR. EDITOR: I have been a subscriber and constant reader of the *HORTICULTURIST* since 1857. The natural inference would be, that I have regarded it as good authority on all matters pertaining to horticulture. More particularly since you have honored the editorial chair, I carefully note every article pertaining to fruits and their culture; and I must confess that, by so doing, I now find myself in quite a quandary in regard to the best manner of treating a young orchard, after the first four or five years. I have one of that age that is very promising, and two or three younger, of equal promise. I think I have done justice to them so far, and am disposed to do my duty in the future, if I can be satisfied what my duty is. During the last few years different ideas have been advanced by different authors, on this subject, entirely antagonistic. For instance, there is John Smith, a man who is well and favorably known in the horticultural sphere, and whose suggestions are entitled to extra credit, says: Give your orchards clean culture, keeping all weeds and grass down, the ground loose and mellow, if you wish to obtain the best results. This is all good common sense, and is adopted in my mind for at least one month, when Pete Jones, a man also possessing equal worth, and whose suggestions are entitled to credit, says, John Smith is wrong; by all means seed your orchard to grass to insure the most satisfactory results. Now, there seems to be a number of John Smiths, and about as many Pete Jones' advancing these opposite ideas. Then there is somebody else, whose name is not given, in the February number of the *HORTICULTURIST*, who is a good witness for Pete Jones, endorsing his grass bill and offers an amendment, by adding cattle to the grass. I hope Mr. Jones won't accept the amendment, as every one knows that cattle have good taste for pruning trees, but miserably bad judgment.

Now this conflict between the two parties is well calculated to make one who wishes to do the right thing, stand still and do nothing, fearing to adopt either plan, else he might err in his good intentions. This is the dilemma I find myself in just now, and I fear I am not alone. Where is the remedy?

Could not a national convention be called, composed of all the John Smiths and Pete Jones', and a compromise be agreed upon that would be honorable to both parties and put a quietus to all present and future troubles on this point? If you think favorably of my suggestion, I will pursue the even tenor of my way until after the action of said convention, promising obedience and strict conformity to all the mandates set forth by them.

KENTUCK.

Bowling Green, Ky.

Editorial Note.—If your trees are growing too luxuriantly, producing too much wood and no fruit, it would be pardonable to grow grass (clover) in the orchard, for a year or two, to restrain this excess of vigor, but we would never advise the practice of grass culture as a *rule*, nor for any great length of time. We believe ourselves in thorough cultivation and mulching in time of fruiting.

Pencil Marks by the Way.

BY OCCIDENTALIS.

More About the Sapsucker.

IN these "Pencil Marks," published in the *HORTICULTURIST* for March, 1871, page 90, I referred to the fact that the Sapsucker had been known to pick through the rough bark of the apple trees and abstract the larva of the Codling Moth secreted there; and I expressed the opinion that they do not peck the trees for the sake of the sap.

Since then, however, I have witnessed what seems to upset my theory, and to lessen my faith in the innocence of the bird. In the orchard of my friend, W. N. Grover, Esq., of Warsaw, Illinois, my attention was directed this winter, to a number of trees where these birds had been at work. He had frequently seen them thus industriously engaged, and had watched the effects. Many of his trees were pecked so badly as to seriously damage them. The injury was, in most cases, done well up the stem of the tree, near the limbs, and generally in places where the bark was healthy and smooth. In many instances, almost the entire surface was pecked away, leaving the inner bark bare, as large as one's hand. Mr. G. was decided in his opinion, that the bird was after food—not as has been the opinion of many, in the shape of larva under the bark—but that the fresh bark itself was eaten. In proof of this position, he had repeatedly sought for this loose bark about the roots of the tree and could find none. He stated that a neighbor had killed specimens of the birds, and had found this fresh bark in their crops.

Being anxious to arrive at the whole truth in the matter, I spent some time in investigating it, passing from tree to tree, examining the bark, and seeking out the hiding places of the larva. I found trees where the quantities pecked away would measure near, if not quite a handful; yet in no case could I find more than a thimbleful on the ground beneath. What had become of it? I found that in all cases the pecking had been done most where the bark was smoothest and freshest. I found, too, that many of these same trees had Codling Moth larva secreted under the loose bark, entirely undisturbed; in some instances quite near to where his birdship had been industriously at work. The larva, however, were not numerous on these trees, although they afforded plenty of loose bark for hiding places. But I did find a few instances in which the larva had been found and taken, evidently by a bird, but by what kind I do not pretend to say. Reader! let us have further testimony before the case of the Sapsucker is sent to the jury.

Pawlonia Imperialis—An Inquiry.

I have some fine specimens of this flowering tree, two years old, in sand in my cellar. They are said to be tender, and will not bloom in the open air north of Cincinnati or St. Louis. Mine have been taken up each winter and transplanted in the spring. But will some one having experience, tell me why it will not be a good plan to transplant them in pots, and thus by dwarfing, cause them to bloom earlier—treat them much as we treat the Oleander in the Middle States?

Does Grape-Growing Pay?

At a late meeting of the Adams County (Ill.) Horticultural Society, the above question was discussed at length, and the following resolution passed, viz.:

“*Resolved*, That grape-growing does pay, and that we recommend the Concord.” One member expressed the opinion that at three cents a pound in bulk, or six cents in boxes, grapes will pay a handsome profit. Another said that if he could be assured of three cents per pound in bulk, he would be willing to plant every acre of his farm to grapes.

Apple Production at the West.

The Orchard Committee of the Alton (Ill.) Horticultural Society reported, “at the risk of excommunication,” that “the apple raising business is overdone.” The report was non-concurred in by the Society. Members contended that good, smooth and well colored apples have always brought good prices. That good Winesaps, Janets, Smith’s Cider, Willow Twig, and even the poorer Ben Davis and Big Romanite, will sell readily; that no other branch of horticulture pays better than growing apples; that the trouble is in growing inferior fruit and the varieties not wanted; that this winter good specimens are bringing three to three and a half dollars per barrel in Chicago, and six to ten dollars in New Orleans. It was urged that good policy required the continued planting of new orchards, as there will be a market for all the apples we can grow.

In view of the facilities for transportation to the remote places in the South and West, the great increase of population, as well as the annually increasing consumption among the people everywhere, this advice of the members was reasonable and proper.

Banks of the Mississippi, Feb. 1872.

Wisconsin State Horticultural Meeting.

THE annual winter meeting convened in Madison, Tuesday, February 6, continuing its sessions through Wednesday and Thursday. It is passed, and I can say, with much pleasure, that it has proven one of the most pleasant and profitable sessions ever held. Fruit-growers were present from all parts of the State, enthusiastic, successful, practical men, who came here to learn still more, and to let their light shine, that our entire State might bring forth fruit in its season.

The first session was opened by the annual address, by President J. S. Stickney, who “came,” he said, “to speak of delicious fruits, beautiful flowers, and magnificent trees, things full of interest, yet so common and plenteous as to be often overlooked or passed thoughtlessly by.” He plead for the “autumn landscape, with its drapery of purple, commanding the attention and admiration of all, but few gave it a thought or careful study.” A lawn, well kept; anybody can have it; “*nothing but grass*,” and yet few appreciate it; and quite too often confined to the surroundings of the merchant *princes* instead of the farmer. He urged the propriety of planting our street borders with trees, and thought that if allowed to stand, the growth would yield a profit to compare favorably with the adjoining lands. Showed the necessity of more care in handling our gathered fruit, as, under its present management, fruits

from other States brought twice that of our own State, simply because it was properly gathered.

This address was followed by one from Geo. W. Minier, of Minier, Ill., who spoke of the great benefit conferred by horticulturists. The man who introduced the Catawba grape, boasted that he had done more good than if he had paid the National debt. Horticulture awoke our better natures; would call upon all men and women to lend it their aid. It would assist to stay the sin of drunkenness, which was annually sweeping away 60,000 of our fellow-men. Schools should teach the natural sciences; such books as Miss Youman, on botany, should be used, and others of like import. Send horticulturists to the legislature, to educate the people in the mysteries of the goddess Pomona, and relatives Ceres and Flora. The earth, the air and sun, were words of great import; their influences, understood and correctly handled, resulted in bountiful summer harvests, autumn fruits and winter enjoyments. God had written upon our every muscle, labor; a dyspeptic stomach was as much an abomination in the sight of God as lying lips. The noble art of horticulture should be taught in our common schools; geology, botany and mineralogy, these three in one. Thus educated, the boys and girls of the State would be the boast and hope of the world, the early impressions being—

“ Like vases in which the essence of roses distil,
You may break, you may ruin the vase if you will,
But the scent of the roses will linger there still.”

The Secretary, in his report, reviewed the year's doings; spoke of the uses of horticultural societies; thought that though visible progress was not always as satisfactory as might be wished, yet the leaven was there and working out for ultimate good. Urged upon professional horticulturists the necessity of more attention to their home adornments, that, by example and precept, the general taste may be cultivated. Suggested that some rising genius, who has a love of study for our insect enemies, be appointed as State entomologist; thought our State should not be behind other States in this respect. One member had died during the year—Ingraham Gould, of Beaver Dam, in his sixty-first year.

Following this, Vice-President Tuttle read a paper on “Tree Propagation with a View to Obtain the Greatest Degree of Hardiness.” This was a well-written paper, tending to show that we may grow many sorts in Wisconsin by adopting a more varied mode of working. Thought there might be a system of double working, so as to obtain valuable results. For this purpose, would use the Transcendent Crab by long scion and short root; by this means roots are got from the Transcendent, and are always hardy; it was almost invariably sound in body and top. On this he would work such sorts as are liable to bark-burst or sun-scald. These may be worked at one year old; others that are usually damaged in the bark of the tree, should be deferred in the working till the Crab is two years old, and then worked in the limbs. Mr. T. is confident we may realize good results from this new mode.

Several local horticultural societies were present by representation, and all were reported in a flourishing condition.

D. B. Wier, of Illinois, read a paper on “Pruning,” illustrating his ideas by well-drawn specimens of mutilated trees, and also his *beau ideal* of a perfect tree.

Would plant young trees, or those two years old, and select none but low-topped trees, preferring those with not more than six inches of body; prunes but little; his "best tree had never had a limb cut from it;" made a distinction between low-headed and so-called low-headed. The reckless method of pruning was compared to tight lacing. Nature will produce better trees than tree doctors; few could assist nature rightly. Grape vines can be treated artificially, but not so with apple trees.

The advice of Mr. W. was different from most of the oldest orchardists present. Mr. Tuttle said that the writer was holding the same positions that he held when he set his first orchard; but he had been converted; would never plant any more of the *low-headed* trees, but now wanted those *so* called, which, in his mind, meant with bodies about two or two and one-half feet long.

Mr. Tuttle's views seemed to be those generally adopted among the members present.

Mr. Wier also read a paper on "Insects Injurious to our Fruit trees." This paper was also explained by illustrations drawn on canvas from life, and proved of great interest to his hearers, as a large proportion of those present had never seen their insect enemies, even on canvas. Prominently among them Mr. W. places the Codling Moth. His drawings show this very plainly. In connection with this, he exhibited his codling moth trap, being one that had been used, and showing how well it seemed to adapt itself to the wants of the moth, as a hiding place.

C. H. Greenman explained how a neighbor entrapped moths, by hanging about in his orchard vessels containing molasses, and though some doubted its efficacy as a trap, he *did* catch a large number, and always had a fine large quantity of apples when all around him lost their crops.

J. C. Plumb read a paper on "Fire Blight;" reviewed its progress; reviewed the theory of cause; concluding that it results from a defective circulation, caused by an excess of nutrition, producing veritable apoplexy. The remedy being in planting on poorer soil, to secure a more moderate growth, and using less means of stimulation through the summer months.

G. P. Peffer read a paper on the "Production of New Varieties from Seed," taking the position that varieties will reproduce themselves from seed, if not affected by the pollen of other sorts; explaining his method, and exhibited fruit which was produced by his method of fertilization by artificial means, giving in detail the principles of his theory.

A paper by W. Finlayson upon "Soil, Aspect and Protection for Orchards," developed the fact that, in his opinion, that soil was best which partook of a strong clay loam, of a limestone nature; was opposed to the cool northern aspect, as not tending to develop the best qualities in fruit. The southern was objectionable for the health of the tree; but the best was upon the summit, where the morning sun will continue its brightness till lost behind the distant hills at night. Protect by belts of timber, to break the force of the wind, and also the bodies on the southwest side by a board, or evergreen planted.

Suel Foster contributed an interesting paper on "The Growth of Trees and their Absorbing Powers;" referring to the beautiful process of nature in the production of new varieties, and in the power of the tree in obtaining its nourishment.

Some of his ideas, I think, are not commonly accepted by tree theorists. It was interesting and valuable.

Dr. C. Andrews, of Marengo, Ill., and Siberian Apple notoriety, read an elaborate paper on the "Profits of Fruit Culture," from which we are led to believe that the apple is *the* representative fruit, all others are subordinate, and that its great value is not in single fortunes some one may make, but in the aggregate quality that may be raised—and paramount to all others, especially for a northern latitude, is the the Siberian species.

Mr. Pinney read an excellent paper upon "Destruction of our Forests, and the Effect it would have upon the Climate;" showing how timber modified the temperature, roots of large forest trees continually drawing heat and moisture from the ground; and showed the effects to a country by denuding it of its forests, bringing to the hearer's mind scenes from the old world, and foreshadowed the same or similar results to our own country, even our own fair State.

Mr. Minier spoke encouragingly and enthusiastically of Timber Culture. Said he had a wood-lot five miles distant, but could not afford to go that distance for his fuel; cheaper to raise it on his home place.

The election of officers resulted in the unanimous choice of: President, J. S. Stickney, Wauwatosa; Vice-President, A. G. Tuttle, Baraboo; Recording Secretary, O. S. Willey, Madison; Corresponding Secretary, G. E. Morrow, Madison; Treasurer, G. A. Mason, Madison. Executive Committee, M. Anderson, Cross Plains, James Brainard, Oshkosh, H. M. Thompson, St. Francis.

Many papers were presented, but, for want of time, not read. I have only glanced at a title of the proceedings, but enough perhaps to show your readers that Wisconsin does not intend to be outdone.

O. S. WILLEY.

Alton Horticultural Society.

Reported for The Horticulturist, by O. L. Barber.

THE February meeting of this Society was held at the residence of D. Williams, in Alton. The day was clear and cold, the thermometer marking 4° above zero. President Brown called the meeting to order; and after attending to some business matters, the Society heard the reports of standing committees.

J. M. Pearson reported on Ornamental Planting, verbally. He said this was the time to make up the list of what is wanted to plant in the spring. He was decided in his recommendation of nursery-grown trees; they were much superior to those grown in the woods, cheaper and more likely to live. He spoke very complimentary of a variety of Weeping Birch, which was freely planted in the East in cemeteries, and would adorn any lawn. He was not satisfied with the Soft Maple; thought there were other varieties of Maple to be preferred, and not so liable to be killed by the borer.

Mr. B. F. Draper, Chairman of Small Fruit Committee, is a young member, and made his *maiden* report, which gave great satisfaction. He took up the subject of

Situation for Small Fruits, which he thought of first and great importance. It could be shown that many failures are traced directly to the fault of *situation*. He used to think himself fortunate if he could secure a southern slope for his strawberries; but, from experience and observation, he was now satisfied that it was the very worst selection that could be made, for the reasons: It is always the driest; more difficult to fallow and subsoil in the fall; such exposure hastens the flowering; exposing to late frosts; if rain is not abundant, the berries ripen rapidly, do not grow to full size, and quality is not good. If rains come, the wash is very damaging to the plants, covering up some and laying bare others. He would not have a slope much any way; would prefer the level surface. The only objection to this is, want of proper drainage; you are compelled to underdrain, or adopt the *deep culture* process—and this is what is needed. The rich surface soil is not carried away; you get moisture, big crops and fine fruit. If you must plant on rolling land, plant the most fibrous-rooted plants on the steepest places. In this respect, I think they may be thus classed: Gooseberry, currant, raspberry, blackberry and strawberry.

Dr. Long thought he would not object to a gentle slope to the north, but in the main approved of the report.

Mr. J. M. Pearson said: This question of situation is, with most of us, "Hobson's choice—this or none." We must use the land we have. The objection to flat land is the stagnant water, after heavy rains, so as to prevent cultivation early in the spring; and, unless we can underdrain thoroughly, I do not see how we can avoid this. I would not plow deep, unless at the same time I underdrained.

President Brown advised deep plowing at all seasons, for all crops; preferred it to a coat of manure.

In answer to questions, it was stated that the summer and fall were very trying and disastrous to the strawberry plants; but they have not been injured since going into winter quarters. It was thought that fruits generally were not injured; the coldest weather reported was 9° below zero, on Monday, January 22d.

In answer to a question, how to get rid of moles? Mr. Riehl said: I have often caught and penned up moles, to learn their habits and diet, and I find they eat sweet and Irish potatoes, and vegetables generally, and can be poisoned; but the sure way is to watch for Mr. Mole, catch and kill him.

Mr. O. L. Barler opened the discussion on *Hot-beds and Hot-bed Culture*. He said: The man who essays to grow vegetables, especially if it be for profit, must get the start of *nature*. To do this, he resorts to artificial means—a sort of trickery—to win the sunbeam.

By the way, did you never think, or, rather, did you ever *not* think how much we gardeners are dependent upon yon Orb, which, in its boundless influence and beneficial effects, is the—

" Best image here below
Of its Creator? "

We set our *traps* of glass, through which the little insinuating and unsuspecting ray enters, but does not know enough to get out. There is nothing like glass for hot-bed coverings. Talk about oiled cotton cloth, or any other make-shift, it is not satisfactory.

For bottom heat, I have found nothing better than stable manure, mixed with leaves or other litter. The manure should first be heated in bulk, and then my practice is this: Build on the top of the ground to the depth of 10 or 12 inches, 18 feet long and 8 feet wide—gently press the whole by laying on 16 feet board and walk on it. On this I set my frame, made of inch lumber, 16 × 6 feet, and bank up to the top all around; in a day or two, I throw in rich mould to the depth of 6 inches, and immediately sow my seed. If of cabbage, cover lightly; if tomatoes, cover deeper—say one-half inch; and from this time I have as much care on my hands as if I had a *baby* to look after.

Mr. Hollister thought the manure retained its heat longer and is more uniform if worked over several times before made into the bed. A few years ago he made excavations in the ground for the manure; now makes his hot-beds on the surface, and prefers it.

The discussion was continued at some length, but nothing new or different from the usual practice was elicited.

The *dinner* was the next subject discussed, and it was entered upon with a relish.

After which, the Society having voted to embrace *agriculture* as well as horticulture in their discussions, the subject of *Cheapest Feed for Domestic Animals* was taken up.

President Brown opened the discussion. All things considered, he gave clover the preference; indeed, he had kept his horses fat all winter on clover; it was just the thing for mules; it is excellent for cows, and good for hogs. He was a clover man all over.

Mr. Schweppee inquired if clover did not give horses the heaves?

Mr. Hilliard: It all depends upon the curing and keeping of the clover. It is the dust that does the harm; I have put clover away in my barn green, just wilted, and taken it out in the spring in perfect order; this will not hurt stock.

E. A. Riehl used one peck of air-slacked lime to each load of clover; it was a perfect success. It can be put up in this way when only partially dried.

Mr. Pearson preferred salt.

Mr. Wm. Eliot Smith had filled his barn with green clover, wet with the rains, and by using the lime had an excellent feed.

Dr. Long preferred clover for cows; but would use clover and timothy, mixed, for horses.

Mr. Pearson put a damper on clover, and said *corn* is, by all odds, the cheapest feed for stalk. It takes 100 lbs. of good timothy hay to equal one bushel of corn, and, at present prices, the 100 lbs. of hay will cost as much as three bushels of corn. I am short of feed this year, and will not buy hay, but instead, will buy ground corn and mix with cut straw.

Our reporter can give but a small part of this discussion, the result of which seemed to be that clover was good, but corn is *king*.

Mr. Pearson moved that the Society discontinue sending copies of its proceedings to the agricultural papers and others throughout the country. Motion carried.

New York State Grape Growers' Association.

AT the annual meeting of the New York State Grape Growers' Association, held at Rochester, N. Y., 15th February, 1872, the following were unanimously chosen officers for the ensuing year:

President—J. H. Babcock, Lockport.

Vice-Presidents—C. L. Hoag, Lockport.

Dr. F. B. Seeley, Vine Valley.

G. W. Nichols, Hammondsport.

D. W. Burge, Peach Orchard.

Dr. H. H. Farley, Union Springs.

Corresponding Secretary—T. S. Hubbard, Fredonia.

Recording Secretary—G. F. Wilcox, Rochester.

Treasurer—M. D. Munger, Canandaigua.

Weight of Fruit.

BY SUEL FOSTER.

HAS any State a legal standard of weights of green fruit? Barrels, boxes, packages and crates of fruit are of all sorts of sizes and shapes, and we seldom know how much fruit we buy when we buy a package. But grapes have been sold and bought by the pound as long ago as I knew anything about their sale.

In the Legislature of Iowa we have a Committee on Horticulture, and I have made an effort to get the weight of a bushel of green fruit established. I think such an act would be useful in every State, and in every market, and some other persons may take the hint by this and do the same.

The producer fills a crate of quart boxes or baskets, with nice soft ripe berries; another crate is filled with unripe hard berries; and when the ripe fruits gets to market it is not quite as good measure as the unripe, but the weight is about the same of either. I think a quart of grapes, cherries, raspberries, blackberries, or hulled strawberries, will weigh about one and a quarter pounds—40 to the bushel. If this was the established weight—40 pounds to the bushel—it would make but very little difference, after the custom was once established, whether a bushel weighed a little more, or a little less; I think it would be better to establish it at that or even at 32 pounds—one pound to the quart—than it would to make the quart so as to divide the fraction of a pound to less than one-fourth. Strawberries with their hulls on, of course, will weigh lighter, but there would be much justice in their being counted the same weight per quart as other berries.

My friend G. P. Wood, of Cedar county, Iowa, weighed eleven varieties of apples, and they averaged a little less than 48 pounds to the bushel—near enough, I thought, to call it twelve pounds to the peck, or one and a half to the quart. And I apprehend that if this was established for apples—pears, peaches and quinces should go at the same weight, for the better convenience of trade.

Can you, Mr. Editor, or any one else, give us any further light on the weight of fruit?

Young Evergreens and Tree Seedlings.

BY D. C. SCOFIELD.

AS soon as you receive your plants, prepare moist sand and place the plants in it, mixing it well among them, leaving out the top only, and pack closely. Do not expose them to the air a minute *at any time* till planted. Let them remain in the sand till your land becomes dry enough to work fine. Prepare a bed in clean, dry, rich soil, with thorough culture, ten or twelve inches deep and four feet wide, a little elevated. Along each side set stakes a foot high, on which to lay poles or strips of boards to sustain brush, or some other material, a foot above the plants, to partially shade them the first season. Common lath three-quarters of an inch apart nailed to strips in lengths convenient to remove when weeding is necessary, are best adapted to this purpose.

Setting Plants.

Make a trench across the bed, deep enough to place the plant against the side upright and not bend the root, and pack the soil *very* firmly against it; let it set a trifle deeper than when in the seed-bed, and so on, setting them six inches apart each way. When the planting is completed, mulch the surface with rotten leaves, spent tan bark, or saw dust. No protection for winter necessary. When the plants have stood in the bed two years, and become two to three feet in height, they should be removed to the timber-belt or forest plantation.

Planting Seed of Larch or Evergreens.

Prepare the bed as above, but in sandy soil. Sow the seed just as it is in rows cross-wise, four or six inches apart. If sandy soil is not at hand, sand must be imported and mixed with the surface soil, and also spread over the seed one-quarter of an inch in thickness, and this should be covered with a mulching of leaves or fine prairie grass, sufficient to preserve moisture till the seed germinates, when the mulching should be removed. Use the lath covering the first season as described above for covering plants. When the plants are two years old, transplant and treat them as above described for treating plants.

Temperature for Shipping Pears.

BY C. W. IDELL.

THE remarks of a correspondent in the March number, in regard to the temperature for pears, reminded me of an experiment that I made in shipping pears to the South during the past season. The experiment shows conclusively, to my mind, that temperature is very important, particularly in regard to their keeping qualities.

As you are aware, that during the past season pears were plenty and cheap in our city, and learning that they were high and very scarce in a southern city, on October

13th I took six barrels of State Dutchess, wrapped them separately in coarse straw paper, and repacked them in the barrels, after ventilating them slightly. This fruit was firm, but had just begun to color. After a seven days' voyage this fruit arrived in fair condition, and sold for eleven dollars per barrel.

On the 20th of the same month I sent thirteen barrels of native Vicars, some of which were very hard, while a few showed symptoms of ripening. The hard fruit I sent without, and the softer with paper. At the same time I sent ten boxes of beautiful California Vicars done up in white paper. All of this shipment arrived in poor condition, and sold for about the cost of transportation.

On the 26th of the same month I sent twenty boxes of Winter Nelis, which also arrived in a damaged condition, and sold at a low price.

The California fruit was in perfect condition, and knowing they possessed remarkable keeping qualities, I never doubted of their going all safe, as I knew the same lot here was keeping beautifully.

On the steamer the fruit was placed where it was cool, and could not receive damage from heating from the boiler, and had the best of care, yet it decayed badly. It did seem strange to me that the Dutchess should carry so well, while the Vicar should rot, and it being a winter pear.

I would like to ask some growers, who have a large experience with the Vicar, if it rotted more this season than usually with them; or did it ripen earlier in the season, in proportion to other varieties; and if they shipped it to a distance, what success did they meet with?



The Fruit Interests of the West.

BY SUEL FOSTER.

IN our section we have plenty of strawberries, raspberries and currants. Plums and quinces we seldom mention. Pears and cherries are abundant, but the grape is second to the apple only.

The readers of *THE HORTICULTURIST* will understand by this that the apple is our main crop of fruit, and that we at the West have a list of varieties different from the Eastern lists. I want to impress upon all, both East and West, that our lists, as usually recommended, are generally much too long. There is but one variety proved most profitable for July, one for August, and so on, and the most profitable sort for March will also answer for the three succeeding months. This brings my list down to *nine*. But we want a greater variety. We want a list which we call "for family." There are choice varieties which have proved a little deficient in hardiness, or health of tree, or quantity of product; and yet the excellence of the fruit induces us to plant the tree, although the fruit costs us from 25 to 100 per cent more than our market sorts.

So we see the orchardist has much to learn in order to select the right varieties. Every year gives us additional knowledge of what to plant; new varieties are con-

stantly coming; and those who read horticultural literature, and attend the horticultural meetings, they only can keep up with the times.

In an early season like that of 1871, we like to see some of our varieties late in putting out—such as the Rawle's Janet, which has given it the name of "Never-Fail." Let me name a few others that are late in blooming: Northern Spy, Mother Hubbardston Nonesuch, Rome Beauty, Westfield, Seek-no-further, *Wine Sap, Sweet Pear Apple, Haskel Sweet, Fall Orange, Lowell, White Bellflower, Talman Sweet. It might be well to have some regard to the late blooming of these varieties, and plant a few of them on that account. The above are not our first choice for general planting.

Early Bloomers.

The early bloomers are Alerson's Early—although I do not find this in our fruit books, it is my first choice for a July pie apple—Early Harvest, *Red June, Sweet June, Summer Pearmain, Golden Sweet, *Late Strawberry, Maiden's Blush, Benoni, Kentucky, Duchess of Oldenberg, Warfield, Belmont, Striped Sweet Pippin, Yellow Bellflower, Domine.

Medium.

I might add a list that are medium in time of blooming: Red Astrachan, *Jonathan, *Roman Stem, *Dyer, Rambo, *Ben Davis, *Willow Twig, *Fameuse, *Small Romanite, Wagner, English Golden Russett, *Early Pinnock, *Williams' Favorite.

Those marked thus (*) are a list of twelve recommended by our State Horticultural Society for Central Iowa.

New Fruits in Indiana.

BY J. H. HAYNES.

While Kansas boasts of receiving the eighty dollar gold medal for her excellent fruits, Indiana can boast of producing more fruit, especially apples, in 1871, than any other Western State, and to her the East is indebted for large shipments last fall, exceeding those of any previous year.

She can also boast of some wide-awake horticulturists who are not a whit behind their brethren, but a little too modest to assert their claims.

Our soil and climate are well adapted to the successful growing of the apple, pear and grape, and all we need is an extensive trial of the newer fruits, so as to find reliable varieties to supersede the old kinds.

Among the new apples which are very promising, are Grimes' Golden, Lawver, Burns, Sylvester, Moore's Extra and Blenheim Orange Pippin—the latter and the Lawver being far superior to any apple in my knowledge.

Of the Blenheim Orange Pippin, Hon. Elihu Burritt (writing to me from England) said it was the choicest apple he had seen in Europe or America.

The Lawver is the Baldwin of the West, and only wants to be seen to be appreciated.

In the production of pears we give the challenge to any sister State to excel in the next meeting of the American Horticultural Society. With good culture our orchards are productive and comparatively free from that dread enemy, blight.

Pear growing as yet is not extensive enough to give a surplus, but young orchards are springing up all over our State.

Of the new pears, Mount Vernon, Goodale and Souvernir du Congress are all equal to what is claimed of them in quality of fruit, hardiness and productiveness. The Mt. Vernon fills a place hitherto vacant—*i. e.*, a choice early winter pear. In quality it is very good. Growth rank, but somewhat straggling.

The Goodale is a very early and an abundant bearer. Fruit uniform in size and very good in quality. Tree fine grower, forming a very symmetrical head.

Souvernir du Congress is monstrous in size and decidedly delicious in quality. Its only fault is, it matures at a time when pears are abundant. Tree, a stout, healthy grower.

The Marshal Wilder, St. Louis and Doyenne Janvier, new French pears, give much promise, but their real fruiting qualities are yet to test. If they prove good bearers, the quality of fruit, and growth of tree, are such as to make them valuable.

Grapes we can produce equal to or superior to Kelley's Island. In my judgment our last season's crop was far superior.

Concord, Hartford, Ives and Delaware are our reliable kinds, but we are striving to find something better in all general qualities than these, and I will say not without strong hopes of succeeding.

Croton and Senasqua fruited here last season; fruit very good; vines hardy, having stood exposed during the winter of 1870-71, when the thermometer showed 22 degrees below zero.

Onondaga bids fair to excel the Delaware in all respects; keeps very fine and till late.

Carpenter and Grant have the appearance of being foreign in fruit, but the vines are quite hardy. The Carpenter is equal to the Black Hamburg in quality, and is a very good grower.

Sumner, a seedling of Mr. R. Stewart's, is equal to Concord in hardiness and growth of vine, but very much better in quality of fruit and size of bunch and berry.

Paxton, Warden, Arnolds and Rodgers' Hybrids all are filling the claims set forth by their originators.

From these you may conclude that our prospects are good, and that we may justly hope to make rapid progress in grape culture, and that if Indiana has been slow in the past, she is sure, and will yet make a record worthy of notice.

Delphi, Ind.



Editorial Notes.

Greenhouse Plants—their Care and Culture by Amateurs.

At the January meeting of the Jacksonville Horticultural Society, Illinois, Mr. Joseph Heintz, the proprietor of the largest and best-filled greenhouse in this part of the State, took the floor, and gave the Society much valuable information in regard to the growing and care of greenhouse plants. The first step necessary to success is to secure sound healthy cuttings, two joints in length; root in common sand with bottom peat; as soon as well rooted remove to two-inch, or thumb pots, three-fourths full of soil, composed of common soil, rotten wood and sand. Pots must be porous—especially avoid hard-burned or glazed pots. Never use saucers; they hold water, saturate the roots of plants, and cause disease. Syringe often, to protect plants from insects; even the red spider can be kept in check by this means. The green fly is easily exterminated by fumigating with tobacco. The shell louse, which infests the oleander and similar plants, may be destroyed by the use of soap-suds. Sulphur is a sure remedy for mildew, but must be used with care, and afterwards washed from the plants, or it will destroy the foliage. He urged the frequent cultivation of all out-door flowers during drouth; would not waste time in watering, but keep the hoe and rake moving, which would insure much better results. Plants for winter flowering should be started in spring, and not allowed to blossom until wanted for use.

Black Knot on the Plum.

D. B. Wier says in a western paper, that the way to prevent the black knot is never to plant on too heavy and wet soil; secondly, to cut off all affected parts in May and June, and cover the wounds with a thick paint of white lead, turpentine and oil. He also recommends planting only the Wild Goose plum and other varieties of the Chickasaw family, which do not bear black knots. It may be well to add that no one should expect to succeed with the process of excision, unless the malady is taken in time, and before it has made much progress over the tree. We have found a solution of chloride of lime applied to the wounds made by the cutting, to prevent the disease breaking out a second time at these places, as frequently took place where this application was omitted. We may also add, on the subject of soils, that the worst cases we have known were on light, dry, gravelly locations.

How to Destroy the Codling Moth.

The horticultural editor of the *Country Gentleman* (Jno. J. Thomas), after a visit to the extensive apple orchard of Oliver Chapin, East Bloomfield, N. Y., which is one of the finest in the United States, and covers over 100 acres of land, in a fine state of cultivation, gives to the public the secret of his success in conquering and

destroying the Codling Moth, the great pest of the apple tree. Seventy acres of this orchard, about thirteen years old, was cleared of this insect the past season, *at the rate of about one acre an hour*. The affected fruit, as every one is aware, has a feeble hold on the tree, and soon drops to the ground. If a bearing branch is struck with a pole when the apples begin to show the presence of the insect at the blossom end, those that are affected will drop; the sound ones will adhere to the branch. Acting on this fact, Mr. Chapin goes through his orchard with a pole, and striking the branches, the injured specimens drop to the ground, and are picked up and destroyed. Two men with poles usually knock off the wormy specimens about as fast as one boy gathers them into a basket. Where they are very numerous, more boys may be needed. As the fruit all hangs downward on the stems, the affected points may be easily seen from the ground, by the exudations from the "blossom," and the men with poles know where to strike. The wormy fruit may be thrown into a large stream or pond and the larvæ thus destroyed, but if the apples float ashore, they will crawl out and escape. A kettle of hot water may therefore be better.

Mr. Chapin informs us that he has tried a series of experiments to determine the season when the insects commit their depredations. The earliest winged moths which he has found appeared on the fourth of June. These came from the cocoons in various hiding places and crevices, where they had passed the winter. About the 15th of July he first detected the presence of the worm in the young fruit by the exudations already alluded to. They continue appearing for some weeks. Hence the best season for the first attack is about the middle of July. By eaging the insects, and watching their transformations, he finds that a second brood comes out early in August. He consequently attaches great importance to making the first attack in July a very thorough one. By doing so, but few insects escape for the second attack on the fruit, and the number of late summer specimens is much diminished, so that instead of having most of his apples spoiled by this second brood, as would otherwise be the case, very few are injured. He finds that the moth will not travel far in search of a place to deposit her eggs, if there happens to be plenty of fruit near at hand for this purpose; but in the absence of loaded trees, she will fly to an indefinite distance. Near the buildings where apples were stored the larvæ came out in great numbers from the crevices where they had hid to undergo transformation, and the trees were badly affected, and a large share of the fruit is ruined, while in remote parts of the orchard, but comparatively few are found. He does not, therefore, fear the results of neglect on the part of his neighbors, so long as they raise apples enough to keep their own moths at home, although it would be better for all to make common cause for their destruction. Some of our readers will perhaps be surprised at the small number of affected fruit in Mr. Chapin's orchard, requiring two men to knock off enough for one boy to pick up; but this exemption was doubtless to be attributed to the thorough manner in which his work was performed, and to the thinning of their numbers, and the prevention of their increase.

Steam Heated Houses for Vegetables.

Edgar Sanders tells about a greenhouse at Chicago heated by steam for producing unusually early vegetables. The amount of coal consumed per day at Miller Brothers' establishment is one ton, but screenings answer well enough for the purpose. One of the prettiest sights he ever saw, in the way of young growing crops, is at this place. It consists of one table, 160 feet long, filled with radishes, at this writing, Feb. 9, just about ready to pull. They were sown, uniformly, at two inches apart each way, as true as if planted, and there is hardly a plant missing in the whole distance. The seed was extraordinary good. The opposite side is good enough, although there are some vacancies. There is growing here altogether about 750 running feet of these greenhouses, filled with radishes, part as above, part with radishes and lettuce, alternating with about 250 feet of cucumbers, the latter just beginning to run nicely. At the far side of the house containing the best patch of radishes, they are reckoning on \$5.00 per light as the proceeds.

Rose-Buds.

The commercial value of Rose-Buds, at special important holiday seasons, would astonish the ordinary lover of flowers. Peter Henderson, in an article to *Hearth and Home*, gives a few ideas of how often the dainty rose-bud brings its high price of \$1: "Twenty years ago camellia flowers retailed at from fifty cents to one dollar each, and no piece of flower-work was thought complete without them. Now they are at a discount, and do not throughout the season average half the above named price. Now rose-buds, that then were not worth as much by the dozen as a single camellia, are now nearly of equal value, and some particular kinds even more so. One of the leading florists on Broadway informed me that in the week ending December 2d, he sold one hundred buds of the Mareschal Niel Rose for a hundred dollars, for which he paid the grower fifty dollars. 'Tea' roses, as they are called, are required this season in every basket or bunch of flowers, and the bouquet makers are nearly driven to their wits' end to get them. The fashion for Tea-roses has already spread to the country towns, and hardly a day passes that orders are not sent to us that we cannot fill. Church fairs, which did not formerly invest in our expensive and perishable commodities, now find that the Tea rose-bud for the button-hole is sought after by hundreds of purchasers. I was waited on the other day, by the 'flower committee' for a church fair in one of our suburban towns. The first item on their list was three hundred Tea rose-buds. The wholesale price was twelve dollars per hundred, yet they were much disappointed that only one hundred, instead of three hundred, could be spared. The number of glass structures for growing rose-buds, in the vicinity of Boston and New York, has probably been doubled during the past year, yet the price has advanced one-third. The kind mainly grown are Bon Silene (carmine-purple) and Safrano (orange yellow). The Safrano is popularly known as *the* Tea-rose, but there are a great many others belonging to this class. The Mareschal Niel (golden-yellow) and the Lamarque (white) are grown, but not so extensively as the 'Tea' varieties, as they require greater age before they begin to flower, and being climbers flower best when trained to trellis-work. The large price paid for the buds of the former, however, will no doubt stimulate to its more general cultivation."

The Magnitude of Vick's Seed Business.

A correspondent of the New York *Evangelist*, visiting Vick's warehouse at Rochester, says: "During the busy season he averages a receipt of 200 orders per day; and from two to four persons are required all the time to do nothing but open the letters. All business is classified so that there is the utmost simplicity and perfect system. Over twenty tons of flower bulbs were sold last fall. One hundred and twenty persons are employed in his establishment, of which seventy-five are girls. The cash receipts for six months were \$309,000, and for the year \$500,000. In his farm for growing seeds, six to seven acres are devoted to Phlox, five to Asters, four to five in Dahlias, four in Zinnias, two to three in Verbenas, two in Pansies."

Color Influence on Vegetation.

Mr. Bert has studied the influence of light, heat and color on vegetation. In order to test the effect of green light on the sensitiveness of the Mimosa, he placed several plants under bell-glasses of different colored glass, set in a warm greenhouse. At the end of a few hours a difference was already apparent. Those subjected to green, yellow or red light had the petioles erect, and the leaflets expanded; the blue and the violet, on the other hand, had the petioles almost horizontal, and the leaflets hanging down. In a week those placed beneath blackened glass were already less sensitive; in twelve days they were dead or dying. From that time, the green ones were entirely insensitive and in a four days more were dead. At this time the plants under the other glasses were perfectly healthy and sensitive; but there was a great inequality of development among them. The white had made great progress; the red less; the yellow a little less still; the violet and the blue did not appear to have

grown at all. After sixteen days the vigorous plants from the uncolored bell-glass were moved to the green. In eight days they had become less sensitive; in two more the sensitiveness had almost entirely disappeared, and in another week they were all dead. Green rays of light appear to have no greater influence on vegetation than complete absence of light; and Mr. Bert believes, adds the *Academy*, that the sensitive plant exhibits only the same phenomenon as all plants colored green, but to an excessive degree.

Lime for Soils of Fruit Orchards.

On most soils, or in most localities, a proper dressing of lime is useful to both peach and pear trees. There are some soils where it will not prove of much benefit, but we are unable to give a certain or infallible indication by which the propriety of its application may be known before making the trial. It would not be so likely to be useful where the ground had been previously repeatedly or heavily limed, or where the soil was poor from a want of the application of yard manure or by plowing under green crops. We have known it to double the growth of trees on soils that appeared to be quite similar to others where no benefit was produced. Over-doses, or an uneven application, might be hurtful or of no use. Common lime may be applied safely at the rate of a hundred bushels or two per acre, but magnesia lime should be used more cautiously. There is no material difference between common stone lime and burnt oyster-shell.

Cultivation of Strawberries.

In answer to a question about the cultivation of strawberries, the *Country Gentleman* says: "Great leading requisite is constantly kept in view, namely, *to allow no weeds to get above the surface*. This is the great cardinal essential, which must not be departed from. After the plantation is set out in clean, well prepared soil, stir the ground often enough to destroy the sprouting weeds before they get to the light. The work may be then done with less than a tenth of the labor required after the weeds are several inches high; and all the labor of this frequent stirring is more than repaid by the increased growth and vigor given to the plants, to say nothing about the weeds. If the plantation is small, the work may be done with a garden rake; if large, with a one-horse cultivator, or, perhaps better, with a fine toothed one-horse harrow. If it is attended to thoroughly through autumn, the plantation may be mulched at the beginning of winter with straw. It will be better, especially for heavy soils, to remove the mulching in spring, and mellow the surface one or more times before the plants blossom. This may be done by raking the mulch into every alternate row, and then after the denuded spaces are stirred, to rake it back again and do the other rows. The mulch being replaced by flowering time, the berries will be kept clean. Some cultivators, who have small plantations, do not disturb the mulch in spring, but loosen the soil through it with a pronged hoe—but whatever course is adopted, see that the weeds do not grow."

Horticultural Notes.

Winter Killing of Fruit Trees.

Mr. Quinn has usually taken a decided position in favor of constant cultivation of the ground, but in a recent number of the *Tribune* he says: "With grass culture much less wood is made, but it is better matured and seldom suffers from winter killing, no matter how changeable or severe the weather may be from November to April. We have grown the Lawton for the last sixteen years, and while the ground between the rows was kept under culture, we suffered constantly from winter killing. But of late years, since we gave up cultivating the ground, there has been little or no loss from this cause."

P. C. Reynolds, in consideration of this subject, writes to the *Rural Home*: "We had once in New Jersey a plantation of Lawtons, which we cultivated highly for three years, causing a fine growth of canes which froze down regularly every winter. We sold the place, and its cultivation was neglected, the plantation growing up to grass and weeds. Revisiting it afterwards, we found an immense crop of berries on canes that were alive to the tips.

"We have had a similar experience on our place here in Rochester, to which we referred a few months since in the *Rural Home*, and expressed the opinion, that, if after a plantation of Lawtons were well started, we should cease to cultivate it, there would be no difficulty in growing good crops of berries in ordinary seasons.

"To no variety of fruit trees are the high culture theories less applicable than to cherries. Their tendency when growing rapidly to burst their bark, exude gum, and blight, is familiar to all who have attempted to grow them according to modern ideas. Most of us can remember when cherry trees, growing in the grass-covered door-yard or along the highway, or in fence corners, were healthy, productive, and long-lived; but how few recent attempts to raise cherry orchards on rich, well cultivated soils have proved successful. A writer in the *Journal of Horticulture*, says: 'Some years ago, a neighbor bought one hundred cherry trees and set them out in an orchard, and began to manure and treat them in every respect as he had done his apple orchard, which was in a thriving condition. In a year or two many of the trees burst their bark, turned black, and part died; this continued until three-fourths of the whole were dead, or nearly so, being quite worthless. He then stopped manuring, sowed his land down to grass and thus saved the remainder. We know another orchard, now some years old, that we set out for a neighbor, where the trees have been kept in grass ever since the second year after they were set. These trees have made a good, sound, healthy growth each year, and latterly, even for ten years past, except a single year, have borne good crops of fruit. There is not a more healthy cherry orchard in the country. These trees have never suffered from the bursting of the bark nor from wart.'

"The most healthy and uniformly productive cherry trees that we are acquainted with around Rochester, grow on the very light, sandy soils along the Ridge Road. We have known the cherries from moderate sized trees to be sold for over twenty dollars."

THE LIEB CHERRY.—A correspondent of the *Gardener's Monthly* says: "This cherry was brought from Germany twenty years ago, and was planted on one of the highest points in Galena, where this tree has withstood extreme cold winters without injury, and has never failed to produce an abundant crop of fruit (except when the blossoms are destroyed by the late spring frosts). The fruit is very large, of a crimson color, nearly sweet, while the flavor is not surpassed by that of any other cherry. It ripens within a few days of the Early Richmond, and the fruit has never failed to bring twenty-five cents per quart in the Galena market. It has been named and recommended by the Jo Davies County Horticultural Society, also by Robson, Soulard, Kittoe, and others.

Cranberry Culture.

The marshy lands near Berlin, Wisconsin, have advanced in price from \$1 or less an acre to hundreds of dollars an acre. Some forties are held at \$25,000. These lands are being cultivated to cranberries; hence their increased value. Cranberry culture is also a leading industry in New Jersey, where an acre of marsh land, well set in cranberries, is worth one thousand dollars. Those who have marsh lands hereabouts should make a note of these facts.

American Grapes.

A correspondent of the *Boston Spectator*, after a late trip through the wine growing countries of Europe, is convinced that American grape-growers follow too servilely the process of European culture. It is well known that the European grapes

can be grown upon this continent only on the Pacific slope, where the climatic conditions resemble those of the western coast of the Eastern continent. Our native grapes being adapted to an entirely different class of conditions, would naturally be expected to require a different treatment. Our excessive pruning, for example, is thought by many to seriously cripple the productive power of American grapes. To test this matter for himself, the writer in the *Spectator* commenced to vary the treatment of his own grapes from the imported methods. He now raises his trellises to the height of twelve feet, and trains his vines so as to produce the heaviest fruitage at the top of the trellises. He finds that their elevation above the ground, and subsequent greater exposure to the sun's rays, secures them from rot and mildew. While these diseases, with leaf-blight and tendency of fruit to bursting, affect, to a considerable extent, the vineyards of his neighbors, he is entirely without annoyance on that score.

From a Single Acre.

General Naglee, of Santa Clara, has gathered from one acre of his vineyard, twenty-seven thousand four hundred and thirty-six pounds of grapes. Number of vines, twelve hundred and forty-four. The general took seventy-nine pounds from a single vine. The variety is known as the "Mission" Grape. This yield at a cent a pound, would give two hundred and seventy-four dollars and ninety-six cents per acre!

The Narragansett Raspberry.

The *New England Homestead* in relation to this berry, says: "It is a seedling from the Brinckle's Orange, and is six years old from the seed, having been in bearing four years. It bears luxuriantly, the berries averaging much larger than any other variety. The fruit is cone-shaped, of an excellent flavor, the color bright crimson, bearing carrying better than any of the favorite market sorts. It belongs to the everbearing family, producing fruit on the new cane which comes up in the spring, thus carrying the crop along until the last of October, or until the frost kills the foliage and green fruit. The canes are large, growing on good, rich ground, which they require, six or eight feet high. They are perfectly hardy, but it is better to mulch them in the fall with long stable manure, and lay them down, giving them some protection, such as will save them from the cutting winds, and yet not exclude the air.

Winter Pruning of Fruit Trees.

It has come to be recognized among horticulturists that pruning, while the branches of trees are frozen, is not good practice. The bending of limbs while in this state often results in fracture, and abrasions in pulling out pruned branches often result in injury to the tree. Besides this, the evaporation from newly cut surfaces often results in shriveling the buds on the branch below the surface.

Better defer the pruning until the trees are free from frost. The cut surfaces, if possible, should be covered with some substance to exclude the air and prevent evaporation. A good and simple coating for this purpose is a thin paint of white lead and oil applied with a small brush to the cut surface.—*Western Rural*.

Training of the Chinese Wistaria in a New Style.

This is a beautiful runner, popular everywhere. It is made to run on trellises—grows very rapidly—and its long racemes of blue flowers are beautiful. Florists have discovered a process to make this plant grow in tree form so as to support itself. This is the plan: "A young plant is first trained to a stake six feet high. When it reaches the top it is headed off. The second year, or as soon as it is stiff enough, the stake may be taken away, and the young plant will support itself. It will never make running branches after this, as it expends itself in the effort to overcome gravitation. A beautiful umbrella head is formed, with hundreds of drooping flowers in spring."—*Willamette Farmer*.

Ed. Note.—We doubt the ability of the vine to support itself in the second year, still we believe it can be grown in that form after three or four years' training.

The Lesson of the Garden.

The most humiliating thing to me about a garden, is the lesson it teaches of the inferiority of man. Nature is prompt, decided, inexhaustible. She thrusts up her plants with a vigor and freedom that I admire; and the more worthless the plant, the more rapid and splendid its growth. She is at it early and late, and all night—never tiring nor showing the least sign of exhaustion.

And the weeds are not all. I awake in the morning, and a thriving garden will wake a person up two hours before he ought to be out of bed, and think of the tomato plants, the leaves like fine lace-work, owing to black bugs that skip around, and can't be caught. Somebody ought to get up before the dew is off (why don't the dew stay on till after a reasonable breakfast?) and sprinkle soot on the leaves. I wonder if it is I. Soot is so much blacker than the bugs, that they are disgusted, and go away. You can't get up too early if you have a garden. You must be early due yourself if you get ahead of the bugs. I think that, on the whole, it would be best to sit up all night, and sleep day times. Things appear to go on in the night in the garden uncommonly. It would be less trouble to stay up than it is to get up so early.—*My Summer in a Garden.*

Preventing Iron Garden Tools from Rusting.

It is said that if iron garden tools are laid for a few minutes into a solution of soda, they will be protected from rusting for a long time, even if exposed continuously to a moist atmosphere.

The Love of Rural Life.

The habit of finding enjoyment in familiar things, that susceptibility to Nature which keeps the nerve gently thrilled in her homeliest nooks and by her commonest sounds, is worth a thousand fortunes of money, or its equivalents.—*Henry Ward Beecher.*

The principal value of a private garden is not understood. It is not to give the possessor vegetables and fruit, that can be better and cheaper done by the market gardeners, but to teach him patience and philosophy, and the higher virtues—hope deferred, and expectations blighted, leading directly to resignation, and sometimes to alienation. The garden thus becomes a moral agent, a test of character, as it was in the beginning.—*Charles Dudley Warner.*

Distances for Fruit Trees.

This subject was discussed lately by the Ontario Fruit Growers' Association, and the conclusion come to was this, that the most suitable distance for apple orchards was thirty feet each way; but in case of using kinds which did not have spreading heads, such as the Early Harvest, Duchess of Oldenburgh, Northern Spy, etc., these might just as well be planted more closely, say twenty feet each way.

Close planting should be the rule in more northern localities; and those who had practiced it, together with low training, had been uniformly successful.

One grower advocated the quincunx form, planting the trees in rows thirty-three or forty feet apart each way, and then planting a tree in the center of each square formed by every four trees.

Low Heads or High.

At the same meeting, the uniform testimony seemed to be in favor of six feet as the proper height of training branches of fruit trees from the ground. If the branches came lower than this they impeded cultivation, and the weight of fruit and leaf bent them over to the ground, affording considerable inconvenience.

The Journal of the Farm.

This appears for April as a dignified magazine, with a cover and ornamental title engraving. It seems to betoken prosperity. Published by Baugh & Sons, Philadelphia, Pa.

Encouragement to Plant Forest Trees.

Iowa, by the act of its last Legislature, has given a decided encouragement to the culture of forest trees. Every acre of forest trees planted releases from taxation for ten years a valuation of \$100; and for each acre of fruit trees, there is an exemption for five years of tax on each valuation of \$50. This looks like business, and puts the subject in a form of tangible self-interest to every farmer in the State to carry it out.

Strawberries and Early Potatoes.

The best acre of strawberry vines that I saw last fall, was raised among early potatoes. The Early Rose potato was planted as early in April as possible, placing one piece only in a hill, thirty inches apart each way; and the strawberry plants also were planted thirty inches apart each way on the same ground at the same time; that is, one strawberry plant placed midway between the potato hills in the rows one way, leaving the rows the other way open for cultivation.

Subsequently the tilling was done with a one-horse cultivator and hand-hoe. In July, the potatoes were dug out and sold for \$97, cash. At the same time the strawberry plants were nicely cleaned and hoed; soon after the runners began to cross the rows pretty freely. The cultivator was then run through the rows for the last time, and a hand followed to replace the roots of any runners that were disturbed. Very little more was needed, although a hand went over the field three or four times with a hoe in his hand, pulling any stray weeds, and with the hoe and hand *placing the runners so as to occupy all the ground*, which was well-covered with plants in the fall, and the land was very clean and mellow. The labor on this acre cost \$1.12½ per day. The cost of adding and caring for the strawberry plants is estimated not to be very much from \$20. This acre was estimated to be worth \$150 more for having the strawberry plants on it.

The owner of this patch was instructing me how to raise strawberries. Says he: I plant squashes, cucumbers, melons, cabbage or sweet corn with a bountiful supply of manure, the next year early potatoes with the strawberry plants, using no manure except plaster, sown broadcast to avoid weeds.

The essential points are: first, that the plants must be set very early and looked to to see that they are all living, as late set-plants will not give a full crop next year; second, the potatoes must be removed very early, so that the plants will more perfectly cover the ground. Thus he gets one full crop of strawberries almost free from weeds. But, said he, if I should try to get a second crop from the same setting it would be quite possible, but the labor after the first crop was picked would cost me four times as much as it does to plant a new bed every year.

I have seen strawberry plants raised among early peas and other crops, but generally a poor stand of plants was obtained, and a full crop could not be realized until the second year, when the land would be full of weeds, and weeds are what the cultivator of strawberries most desires to avoid.—*N. P. Hedges, in Germantown Tel.*

Tulips for In-Door Culture.

The *Gardener's Magazine* says: "When grown in pots, tulips are treated precisely in the same manner as the hyacinth, but several bulbs are placed in a pot. When required to fill epergnes and baskets, and other elegant receptacles, it is a good plan to grow them in shallow boxes, as recommended for crocuses, and transfer them when in flower to the vase or baskets. In common with hyacinths and crocuses, they may be taken out of the soil in which they have been grown, and the roots washed clean, and inserted in glasses for decorating the apartment. For general usefulness, the early tulips are the most valuable of all, because of their many and brilliant colors.

Select List of Roses.

The *London Garden* gives the following select list of "very hardy roses" for beginners, to be planted in well drained and well manured ground, away from trees,

but not in a bleak exposure. In our severer winters, a few will need covering; and several will be recognized as old acquaintances by cultivators here:

Gloire de Dijon, Noisette.	Madame Boutin, hybrid perpetual,
Souvenir de la Malmaison, Bourbon	Madame Boll, do.
Alfred Colomb, hybrid perpetual.	Madame Caillat, do.
Baroness Rothschild, do.	Madame Clemence Joigneaux, do.
Baronne Provost, do.	Madame Rivers, do.
Caroline de Sansales, do.	Marechal Vaillant, do.
Comte de Nanteuil, do.	Senateur Vaisse, do.
General Jacqueminot, do.	Victor Verdier, do.
John Hopper, do.	Blairii No 2, hybrid China,
Jules Margottin, do.	Charles Lawson, do.
La Ville de St. Denis, do.	

Editorial Notices.

Barry's Fruit Garden.

We are glad to welcome this volume at last. Among the Pomological volumes of our library, we always gave a cherished place to the old edition, and often consulted it. The new edition comes at a time when we greatly need good advice in this age of superabundance of new fruits, and we felt prepared to strike a sort of pleasant acquaintance with it, as soon as it appeared. Glancing over its contents, we find the principal work of revision has been in the revision of lists of fruits. Due justice has been done to those parts which relate to pruning, propagation, and nursey management. And in these topics no more reliable or practical guide can be found in the United States.

As it is written by one familiar with the details of the nursery, it will meet with favor from all the trade, while to the amateur, anxious for a judicious advice as to a good selection of trees for planting, it will be found the most reliable and best adviser of all works on fruit culture now extant. O. Judd & Co., publishers. Price, \$2.50.

Farm Gardening and Seed Growing.

This volume, written by Francis Brill, formerly market gardener, near Newark, N. J., is devoted especially to the market cultivation of farm vegetables and seeds. In some respects it trenches over into the same ground occupied by Henderson's *Gardening for Profit*, but does not cover as wide a range. The directions of the book seem to be generally very practical and sensible, and the estimates of the author are reasonable. Price, \$1. O. Judd & Co., publishers.

Willard's Practical Dairy Husbandry.

Mr. Willard's reputation as the most thorough and practical observer of the methods of dairying in the United States, will justify the assertion that none were better qualified than he to write so able a volume upon this subject. This book contains over 550 pages, of most minute detail and instruction upon all parts of dairying, from the care of dairy farms to the selection of stock, the management of milk, and the history of butter and cheese factories. Price, \$3. Published by D. D. T. Moore.

California Fruit.

A box full of most noble specimens of California pears, from the orchard of C. W. Reed, Esq., Sacramento, Cal., were presented to us lately by Davis & Sutton, of Warren street, this city. The average weight was 15 ounces each specimen, and some were over a pound. The variety was Easter Beurre, the handsomest specimens

we ever beheld. It demonstrates to a certainty the practicability of the shipment of fruit to this city from so distant a point, and we should judge that the Easter Beurre is much the safer variety to ship, being late in ripening, an excellent keeper, and, as grown in California, of excellent quality. The specimens we received were of a rich yellow color, very attractive. We understand that this firm will, hereafter, engage largely in the sale of California fruit, grapes, pears, etc., as a specialty. We are under many obligations to them for these specimens.

Dreer's New Catalogue.

Mr. Henry A. Dreer has favored us with specimen of a new bean, which, in honor of its early ripening, we named the Tip Top, and will experiment with it this summer. It is a variety of the Wax Bean, much better than any yet introduced. Mr. Dreer's business seems to develop yearly with rapidity; and it is a pleasure to notice his continued success. His son, William Dreer, is now associated with him in the plant department at Riverton, and from the favorable estimation which the ladies seem to have of his plants, and the orders they send in, one would judge their "busy times" were well deserved. Mr. Dreer's Catalogue is not quite as pretentious as some others, but one can always rely upon getting good things at his store.

Window Gardening.

A new edition is now in press, and is expected to be ready by May 15th or 20th. The demand for it is unprecedented. We regret very much any delay, but our first edition was not sufficient to fill but half the orders.

Contributions.

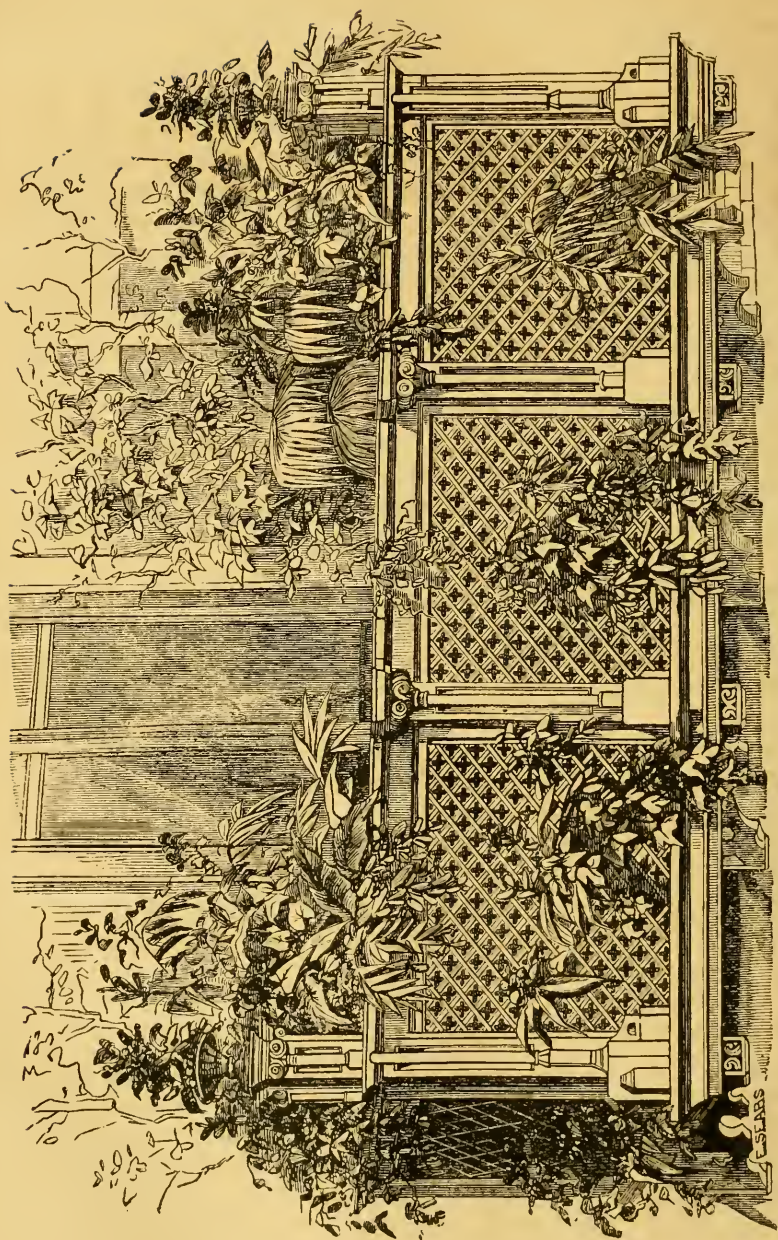
We extend a cheerful invitation to all our subscribers to write for us any sterling practical articles. Do not let the editor do all the work, but come forward with your own pens, and help the cause, and tell your own experiences. Everyone who will do this, shall be gladly welcome.

Back Volumes of the Horticulturist.

Subscribers having back volumes previous to 1869, wishing to sell, will please communicate to us the number and price.

Canned Fruits.

The business of canning fruits has reached a point where it might almost be considered a science. In our large fruit-growing sections, canning factories are steadily multiplying, and besides the fabulous increase and sale of manufactures, there has been a steady tendency toward a *better quality*. The finest canned fruits we have ever eaten were presented to us last fall, just as we began our excursion to the Rocky Mountains, and besides what were then eaten with enjoyment, the past winter we have had opportunity to test several other kinds manufactured by Richardson & Robbins, of Dover, Del. Located in the heart of the great peach and fruit producing district of Delaware, they have the very best facilities for getting the freshest, largest, and nicest fruit for canning. Extra pains are taken to put up all these goods, and their reputation is considered the best in the United States. Finer canned cherries, peaches, pears, berries, never graced a table than the specimens we have enjoyed from their hands. A couple of jars of canned pears were among the assortment we received, one of Bartlett and one of Lawrence. Although the Bartlett was much the largest and finest in looks, yet the Lawrence was much the most rich in quality, and we are glad to learn, from the trials of Richardson & Robbins, that they considered it the finest of all pears for canning purposes. This idea will give new interest to the subject of growing pears for profit; to learn that surplus pears not needed for market, can be most wisely and profitably canned and sold at remunerative prices.



A Balcony Garden.



VOL. 27.

JUNE, 1872.

NO. 312.

The Maples.

BY P. BARRY.

THE Sugar Maple (*Acer saccharinum*), the Scarlet or Soft Maple (*Acer rubrum*), the Silver Maple (*Acer dasycarpum* or *eriocarpum*), and the Norway Maple (*Acer platanoides*), may be called common and well known trees in this country; the three first named especially, being extensively planted as street or avenue trees, both in city and country. Few persons, however, know how large the family or group is, what a variety it presents in habit of growth, in form and color of foliage, bark, flower and fruit. Upwards of twenty-five species and varieties are enumerated in some of our American catalogues, and this is far from representing all that are known. Some European catalogues contain upwards of sixty—about one-half of the number being varieties obtained as sports or seedlings, in the course of cultivation.

One thing in regard to the Maples is very remarkable, and that is their wide geographical distribution. They are found in every part of our own country, from Maine to California. They abound in all parts of Europe.

Asia has already given us the charming maples of Japan.

The European forms have been found in Africa. It is quite likely they may be found in some form in every part of the globe; and this can be said of few other families of trees.

Beginning with our own species, and speaking of them only as ornamental trees, I would name first the Scarlet Maple (*Acer rubrum*). 'This tree is well known as Red Maple, and vaguely "Soft Maple." Its bright red flowers are among the first heralds of spring, and are succeeded by a profusion of red seeds. Last spring, in the months of February and March, I was in Florida, and in passing up the St. Johns river, the woods on either side were studded with masses of brilliant red, which we soon ascertained to be the Red Maple, covered with seeds. For at least a month

they remained in this condition, and on our return home in April through Georgia, South Carolina, North Carolina, Virginia, etc., we found it still covered with seeds, but we noticed that they grew paler in color as we came north. I do not think there was a mile of country between Florida and New York in which we did not see this maple. The intense crimson of the Southern seeds led us to suppose it was a distinct species, but we think it is not; the deep color is due to climate.

There is a variety named *Fulgens*, of dwarf growth, and more brilliantly colored flowers and seeds.

The Silver Maple (*Acer dasycarpum* or *eriocarpum*) resembles the Scarlet Maple, but is a tree of more rapid growth, and attains a larger size. It is called "Silver Maple" from the silvery white color of the under side of the leaves. It is now more extensively planted than any other maple, being of very rapid growth, and adapted to almost any soil or climate.

The Sugar Maple (*Acer saccharinum*) is still a great favorite as a street tree. Its growth is stiffer and more erect than those named; the head is more massive, the foliage a darker green, and in the autumn assumes more brilliant tints of red and orange than any other maple, or indeed we might almost say, any other tree—one of our most valued trees for planting parks, and other extensive grounds where large masses of foliage of particular colors are desired.

The Norway Maple (*Acer platanoides*) is indigenous to the north of Europe, quite extensively planted in this country, resembles the Sugar Maple, but has larger foliage and grows more rapidly—a very hardy, fine tree. I have observed it thrive well on the seashore, where only a few trees would live.

The European Scyamore, or Sycamore Maple (*Acer pseudo-platanus*), a noble tree, of rapid growth, large foliage, and a wide-spreading head, well adapted to park and avenue planting.

The Spiked-flowered or Mountain Maple (*Acer spicata*), a native of the northern parts of our own country, a distinct and handsome little tree, attaining only ten or twelve feet in height. The seeds, which are borne in long graceful spikes, are highly ornamental in the autumn.

The Striped-barked Maple (*Acer striatum*), a native of our northern woods, where it usually goes by the name of "Moosewood." It attains a height of only ten or twelve feet, the bark is beautifully marked with longitudinal stripes of black and white. Both this and the preceding deserve more attention as ornamental trees.

The English Field Maple (*Acer campestreis*), a small sized tree, with dense spreading branches. The trunk is curly and rough, leaves small and fine lobed; quite distinctive from all the other species.

The Ash-leaved Maple or Box Elder (*Acer negundo*), quite distinct from all other Maples. The leaves are opposite on the branches, and consist of two pairs of leaves and a single one; the shoots are of a peculiar green color, while the trunk is dark brown, making quite a striking contrast. It is a native of the western and southwestern parts of the United States.

There is a variegated-leaved variety, white and green, the most beautiful of all that class of trees, but unfortunately it will not stand either our summer sun nor winter's cold. In Germany it is grown in pots for in-door decoration, and in the

parks of Paris it is planted in groups and masses, where it rivals in effect the most brilliant flowering and foliage plants. It is a sport from the common sort originated in France some twenty or twenty-five years ago.

The Newer Maples.

The Red Colchicum Maple (*Acer colchicum rubrum*), an elegant tree, of rapid regular growth and ample foliage, in its starry form resembling the Liquid Amber. The young shoots and leaves are of a peculiar purplish red tint that distinguishes it at once. Will be a popular tree as it becomes known. A native of Japan, but quite hardy.

The Large-leaved Maple (*Acer macrophylla*), a native of the northwest portion of our country, especially the Columbia river region, and in some parts of California.

It is a notable tree, of rapid growth like the Silver Maple; has large and more deeply-lobed leaves. In cultivation here only a few years.

Varieties of Maples with Remarkable Foliage.

The following are sports or seedlings of some of the preceding species having some striking peculiarity either in form or coloring of foliage :

Varieties of the Silver Maple (Acer dasycarpum).—Crisped-leaved (*Crispa*), a variety originated by Ellwanger & Barry. The foliage is curiously cut, and somewhat curled.

Wagner's Cut-leaved (*Wagnerii laciniata*), of European origin, foliage distinctly cut.

Wier's Cut-leaved. This is likely to prove superior to any of this class. Originated by Mr. D. B. Wier, of Illinois.

Variegated-leaved (*Variegata*); leaves handsomely marked with silvery stripes and blotches.

Varieties of the Sycamore Maple (Acer pseudo-platanus).—Purple-leaved Sycamore Maple (*purpurea*), a distinct and beautiful tree; its large leaves are dark green above and purplish red underneath, producing a fine effect when agitated by the wind.

Leopold's Sycamore Maple (*Leopoldi*), foliage marbled with purplish red, becoming lighter. The green parts have a bronzed tint; new.

Silver Variegated Sycamore (*Variegata*); the large foliage distinctly streaked and blotched with white. A well marked, beautiful tree.

Tri-colored-leaved Sycamore Maple (*Tricolor*), leaves distinctly marked with red and white; a very curious and beautiful variety, not quite so vigorous as the species.

Gold-leaved Sycamore Maple (*Aurea Variegata*), foliage delicately shaded and clouded with a yellow or golden tint; quite distinct and attractive.

Varieties of the Norway Maple.—Cut-leaved, or Eagle's Claw (*Laciniata*), leaves deeply cut and the sections sharply pointed.

Dissectum, another cut-leaved variety of recent introduction, and promising to be a finer tree than the preceding.

Lobel's (*Lobelii*), an upright symmetrical tree, with peculiar pea-green foliage.

The Japanese Maples.—These, as far as yet introduced, except the Colchicum

already described, are slow growing trees, with small delicately cut or fringed leaves, in some cases remarkable for their bright colors. They are difficult to propagate, and will be introduced slowly.

Rochester, N. Y.

How to Plant a Rural Home.

By Josiah Hoopes, in New York Independent.

THERE are two requisites in adorning the surroundings of our rural homes, without which failure will be the inevitable result—natural talent and practical experience. The former cannot be learned from books, but may be improved like all other studies. The latter is absolutely essential, and improves one all the time. When a novice undertakes his own planting, without a previous knowledge of trees and their individual requirements, the effect will be similar to a house, which he had felt competent to build without the services of an architect. I sometimes think that no one should arrange his own grounds without first consulting an intelligent, first-class landscape gardener, under the very same principle that he would engage the services of an architect to prepare a plan for his dwelling. But possibly I am too ultra in this, and I will therefore modify it somewhat by stating, that there is a class of Americans who really love trees and plants, and, consequently, would derive no small amount of pleasure in arranging and planting their own yards and gardens.

To these, I propose to offer a few hints for guidance, and will take an imaginary section of ground, say an area of about one acre. On the south, east and north the property is bounded by public streets, and the dwelling is placed 100 feet from the front, or south, and 40 feet distant from the east, or side street; we thus leave sufficient space on the west for another similar dwelling, if desired hereafter. At the southeast corner the entrance should be located, with a gradual curving drive leading to the end of the front porch, then passing parallel with the side of the dwelling, end at the coach-house and stable, on the rear of the lot. Directly in front of the latter should be a circle for a return-drive, with a Hemlock Spruce (if there should be sufficient space), or a Siberian Arbor Vitæ (if contracted), planted in the center. These assist in concealing the objectionable features connected with such out-buildings. I should recommend planting the American Ivy (*Ampelopsis*), the New Evergreen Honeysuckle (*Lonicera brachypoda*), and its conspicuous variety, the Golden-veined Honeysuckle (var. *aurea reticulata*), around the carriage-house, so that it will always form a picturesque object, and especially during the autumn months. English Ivy is at all times handsome; but the prevailing fault of our countrymen is impatience, hence we require more rapid growing vines, such as I have mentioned.

Clustered along the rear of the lawn should stand a belt of low evergreens, which will also assist in screening the homelier portion of the place from view. These should consist of a small sized tree or two on the extreme background, with the others graduating in height to the front, whilst low trailing species must form the outer edge. For instance, commencing at the back, place either a Siberian Arbor Vitæ and Plicate Arbor Vitæ, or a Tree Box; in front of these, a *cephalotaxus*, Erect Yew, Dwarf Pine, Hoopes' Arbor Vitæ, Hovey's Arbor Vitæ, and the new Rollinson's

Elegantissima Arbor Vitæ; with a yet smaller class in front of them, such as Gregory's Dwarf Spruce, Hudson Bay Dwarf Fir, Dwarf Chinese Arbor Vitæ (*Biota nana*), Canadian Trailing Juniper, Prostrate Juniper and Lavin Juniper. Directly back of the dwelling will be an excellent location for a few standard fruit trees, and although it is a difficult matter to say what varieties every one should plant, few, very few, being universally first class—still I should not like to do without, say one each, of the Bartlett, Seckel and Lawrence pears; Gov. Wood, Early Purple Guigne and Early Richmond cherries; Early York, Early and Late Crawford and Ward's Late Free Peaches, and one or two Orange Quince trees.

At each bend of the carriage road should be placed a group of flowering shrubs; and here let me say that "shrubbery on a lawn must have two prunings during the season—the first before vegetation starts in the spring, and again during the latter part of summer, always keeping in view a perfect rounded form. Two groups on the east side of the drive may be sufficient, and they may be composed of the following: For the larger, *Hydrangea paniculata grandiflora*, *Weigela rosea*, *Forsythia viridissima*, *Cydonia Japonica*, *Weigela hortensis nivea*, double rose and double White Almond; the smaller group, say of three shrubs, may be *Weigela rosea nana variegata*, Purple-leaved Berberry and variegated Indian Currant. Thus we have a showy bed all the season of white, purple and yellow foliage, in addition to the handsome flowers. At the east side of the residence, facing a bay window, if possible, should be located one of the grandest features of the place—I allude to a bed of *Rhododendrons*. These should be distinct in color, and to create a rich effect, the group must consist of from six to twelve plants. No especial care is necessary in preparing the soil, excepting where heavy clay prevails. In that case, the soil must be removed to the depth of two feet, and the excavation filled up one-third with small stones, for drainage. The soil for refilling is best composed of old surface sods well rotted, and leaf-mould from the woods, with a fair proportion of sand. Fill up the bed a few inches higher than the surrounding surface of the lawn. On either side of the entrance gate, I would recommend planting a *Magnolia*; for instance, *M. soulangiana* and *M. conspicua*; these are always beautiful during summer, and remarkably so when covered with their gorgeous bloom. We now arrive at the front lawn, which is the great stumbling block to most planters. By all means leave a clear open vista, directly in front of the dwelling to the street, with the exception perhaps of three circular flower beds, so placed as to form an equilateral triangle. One of these may be filled with different colored *Coleus* in distinct rings, finishing the outer edge with a dwarf *Alternanthera*. Another bed may be composed of Scarlet Geraniums, either Gen. Grant or an equally profuse blooming kind, with an edging of silvery-leaved *Artemisia*. The third bed, so placed as to form the most distant point of the triangle (the first two being parallel with the dwelling), should have for a center-piece a strong plant of *Abutilon variegata*, and around it circles of *Achyranthus*, variegated *Euphorbia*, *Coleus verschaffelti* and *Cineraria maritima*. A firm gravel walk, about five feet in width, would prove a handsome feature, commencing from the front door, and after passing westwardly in front of the house, gracefully curve away in an easy flowing style, and end at the front of the grounds, near the southwestern corner. In the angle formed by the front fence or terrace,

and the drive, as well as the corresponding angle formed by the aforesaid walk and the front, would be suitable places for groups of three Evergreen trees each—one of which might be formed of three Hemlock Spruce, and the other of three White Spruce; or if expensive species are desired, I would recommend one to embrace an *Abies nobilis*, *A. pichta*, and *A. Nordmanniana*; the other, *A. cephalonica*, *A. grandis*, and *A. orientalis*. Passing up the entrance drive on the left may be located a bed of hardy Belgian Azaleas of dazzling colors. Near the dwelling, for shade, we must have a Silver-leaved Linden, and close by, a Kilmarnock Willow. Again shifting our position to the entrance of the gravel walk, on the right as we approach the dwelling, a bed of *Yucca* will be very appropriate, and farther on may be two or three trees, partly for shade: for this purpose the *Magnolia umbrella*, Sugar Maple, and Dwarf Weeping Cherry, or, in place of the latter, the Weeping Great-toothed Poplar would make a beautiful trio. The western plot, or that portion of the lawn situated between the entrance walk and the western boundary, only remains to be planted. At the front we can introduce a group of four evergreens, and the same number of small deciduous trees. The former may be composed of a Norway Spruce, White Spruce, European Silver Fir and a Cedar of Lebanon; whilst the latter, planted on the outer edge, may be Red Bud, White flowering Dogwood, *Virgilia* and White Fringe. In a curve of the walk, a mass of flowering shrubs may be introduced, such as the Fragrant *Clethra*, Double-flowering *Deutzia*, *Hypericum Kalmianum*, *Viburnum plicatum*, *Hydrangea quercifolia*, *Ribes aureum*, *Spirea Billardii* and *Spirea Reevesii*. A little further on, a bed of roses will form a pleasing feature, particularly if set in circles of distinct colors.

At the southwest corner of the dwelling, standing singly, should be the finest specimen about the place—a Norway Maple—not only affording shade, but forming a beautiful picture. On the open lawn, west of the residence, a large circular bed for tropical plants will look well. To create the best effect, in the center set a large-leaved *Ricinus*, then a few tall Cannas, next *Wigandias* and *Calloeasias*, and lastly, hardy ferns for an edging. Along the northern boundary of this portion of the lawn must be a dense belt of trees, formed of the following species, judiciously arranged, with an easy flowing outline: *Salisburia*, Purple-leaved and Fern-leaved Beeches, English cork-barked Maple, European Horse Chestnut, European Larch, Austrian and Scotch Pines and Siberian *Arbor Vitæ*. A Weeping Beech should stand alone in front, and one or two groups of three each, mainly of the smaller class of trees, can also be judiciously introduced on this side-lawn. For this purpose I would suggest the Weeping cut-leaved Birch, cut-leaved Alder, and a double flowering Thorn (where the latter will thrive).

Another pretty group may be composed of the *Laburnum*, *Halesia* and *Magnolia glauca*. So much for the ornamental portion of the grounds, and now a few items in respect to the practical department. Surrounding the latter should be planted either a Hemlock or *Arbor Vitæ* hedge, to be kept neatly trimmed. The compartment for small fruits, which I prefer to have separated from the culinary garden, may be set as follows: First, a few dwarf pears, say one each of *Doyenne d'Ete*, *Howell*, *Seckel*, *Beurre d'Anjou*, *Duchesse d'Angouleme* and *Lawrence*. One each of the following dwarf apples: *Red Astrachan*, *Early Joe*, *Primate*, *Jefferis*, *Porter* and *Smoke-house*.

Then of the smaller fruits, 12 Red Dutch currants (nothing *pays* better than this), 12 White Dutch currants, 12 each of Kittatinny and Lawton blackberries. Where flavor and size is concerned, without regard to trouble, I should recommend in raspberries, Hornet and Brinckle's Orange; but for heavy crops, with little care, the Philadelphia heads the list. Twenty-five plants of these will be sufficient, and in planting *always set very shallow*—more plants being killed by deep planting than by all other causes combined. Twelve plants of the American Seedling Gooseberry will furnish sufficient tartness to set the teeth of one family on edge for a year. There is nothing better, however, for hardiness and productiveness combined. Strawberries in rows, with the runners kept off, may be planted between the above, and as to varieties, can we recommend any one beside the Albany? If the soil is clayey, grow Triomphe de Gand, but this must be tested. Along the back of the enclosure should be erected a trellis for hardy grapes; and just here the question arises, what varieties can we recommend? In the vicinity of Philadelphia, we cannot get very far beyond the Concord, Hartford Prolific, Creveling, Clinton and Union Village, but with the addition of a narrow roof on the summit of the trellis, I have seen the Delaware, Diana, Rogers' Seedlings, etc., thrive successfully. Every one with sufficient means (and it is surprising how very little trouble and expense it really is) ought to have a small cold grapery for at least one each of Black Hamburg, Black Barbarosa, Muscat Hamburg, Bowood Muscat, Muscat Trouvernon and Golden Hamburg. The vegetable garden should be laid out in rectangular beds, with a supply of Linnaeus Rhubarb (the very best) and Asparagus planted on the borders. The coarser growing varieties, such as Sweet Corn, Pole Beans, and perhaps Potatoes can be grown among the fruits in their enclosure. I would say in conclusion, it *don't pay* to grow weeds, but it does to stir the ground often, and thereby keep every portion neat and clean.

A Test of Molecular Manure.

WE took several packets of Thorburn's green-house seeds the other day, and report the following: In a soil one-third ordinary stable manure, just in the last stages of fermentation, and two-thirds sandy loam, put into two-inch wooden boxes on hot water pipes, imparting a steady heat of 70 degrees Fahrenheit, we brought up fine half-inch to inch in length

Geraniums	in 48 hours.	Primrose (Chinese) in 48 hours.
Pelargomiums	" 48 "	Acacia " 60 "
Canna	" 36 "	Carnations " 40 "
Japonica	" 36 "	Clanthus " 40 "
Calceolaria	" 60 "	Erica & Epacris " 40 "

And so on through Mr. Thorburn's entire list of green-house seeds. Not one packet was more than sixty hours in coming to the surface a perfect shoot. Doubtless much is due to the peculiarly fermentative condition of the manure used.

You will see by this that molecular manure has some good in it, and is an excellent food for all vegetable growth;

H. K., Clinton avenue, Brooklyn.

Profitableness of Fruit Culture in Michigan.

FEW have any adequate idea of the vast amount of fruit now being raised on the shores of Lake Michigan. We have recently received some statistics concerning fruit culture near the town of Spring Lake, Mich., for the year 1871, and the names of some of the best growers. The largest vineyard is that of Hunter Savidge, Esq., which contains 2,000 vines. Three vineyards have each produced fifteen tons of grapes, mostly Concords. The aggregate amount of grapes raised in the vicinity of Spring Lake this year will reach 140 tons. There were 18,000 baskets of peaches shipped this fall.

Geo. H. Lovell: 4,500 peach trees on twenty-five acres; shipments, 7,000 baskets. Received for same \$3,500; grapes, one-half acre, 7,000 pounds, or $3\frac{1}{2}$ tons, netted three cents per pound, \$200; apples, twenty bushels; net proceeds \$3,710.

Chas. E. Soule, proprietor of Vineyard Point Orchards, reports 299 bearing peach trees, mostly Early Crawfords, which produced 2,241 baskets; gross sales \$1,416.93; cost of baskets, freight, etc., \$434.93; net proceeds \$982. Of grapes, Mr. Soule has a large number of vines all young; from his vineyards he realized \$251.95; proceeds of farm \$1,223.65.

J. B. Soule reports 2,000 peach trees three years old, mostly Early Crawfords, from which he shipped 1,000 baskets. His vineyard consists of 360 vines of the Concord and Delaware, from which he shipped 4,500 pounds; raspberries of the Doolittle variety, raised forty bushels; net proceeds, peaches, \$650; grapes, \$100; raspberries, \$70; total, \$820.

E. A. Treadway has fifteen acres under cultivation, which, three years ago, were covered with forest trees and underbrush; he has 100 bearing peach trees, which produced sixty baskets. His vineyard consists of 500 young vines, from which he gathered 3,000 pounds, or one and a half tons of grapes; also, ten bushels of Black Cap raspberries and ten bushels of Red Cap raspberries. Net proceeds, peaches, \$15; grapes, \$75; black raspberries, \$50; red raspberries, \$30; total, \$170.

Martin Walsh: 111 peach trees, from which he shipped 1,000 baskets of peaches, and from his little vineyard he had the most remarkable yield on record. He has sixty-two rows of the Concord, twenty-three vines in a row, in all 1,426 vines, from which he shipped 280,550 pounds of grapes, or *fourteen tons five hundred and fifty pounds*, for which he realized three cents per pound net, or \$841.65 off two acres and thirty-six rods. Mr. Walsh also reports ten bushels Siberian crab apples, ten bushels of raspberries, twenty bushels blackberries. The net proceeds of a crop grown on a little over two acres of ground, as follows: Peaches, \$500; grapes, \$856.50; Siberian apples, \$20; raspberries, \$30; blackberries, \$150; total, \$1,556.50.

Chas. Allen's young vineyard and orchard of five acres produced as follows: Of grapes, 7,900 pounds, or near four tons, from 700 Concord vines; one acre of strawberries, half of which produced twenty-five bushels; and twenty-eight bushels raspberries. Mr. Allen has 100 young peach trees and 200 apple trees beginning to bear, and 100 pears. Net proceeds, grapes, \$632; strawberries, \$180; raspberries, \$84; total, \$896.

H. G. Smith reports having shipped 789 baskets of peaches, 200 grape boxes, 110 bushels apples. Net proceeds, \$497.67.

T. D. Dennison reports having raised from 100 young peach trees, 600 baskets. In his vineyard he has 200 vines, from which he gathered 2,000 pounds. Net proceeds, peaches, \$360 ; grapes, \$80 ; total, \$440.

From the Spring Lake Nursery, John K. Kneeland & Co., proprietors, we have received the following statement: The firm owns 161 acres of land, one-half of which is in orchard, nursery and vineyard. This firm has 1,200 peach trees beginning to bear, from which 1,000 baskets were shipped this year; 250 apple trees now bearing; 4,000 now being added to the orchard. Their vineyard contains at present four and a half acres of young vines, from which 2,500 pounds of grapes were shipped. Two acres were planted in small fruits.

L. D. Bartholomew reports seven acres in peaches—orchard. He shipped 125 baskets from one acre. He has 500 bearing vines in his grapery, from which he had 2,000 pounds, or one ton of grapes ; of raspberries he had 200 quarts.

Hiram Beckwith has forty acres ; his apple orchard contains 150 young trees, which bore sixty bushels this year ; ten bushels of pears from twenty-five trees. Mr. Beckwith has 600 peach trees and 200 beautiful quince, three years old ; also one acre in vineyard, one-half acre in strawberries, and one-fourth of an acre of raspberries.

W. G. Sinclair reports having sold 200 baskets of peaches, forty bushels of apples, twenty bushels of raspberries, and 2,000 pounds of grapes.

This, with most of the above orchards and vineyards, is within the corporate limits of Spring Lake.

Curious Plants.

BY ROBERT MANNING.

MY friend, Mr. L. Guérineau, the gardener to the botanic garden connected with Harvard University, a short time ago, sent me a flower of *Stapelia grandiflora*, having on it maggots, which had been hatched from eggs laid there by flies who were attracted by the odor of the flower, which strongly resembles that of carrion. The *Stapelias* are a curious tribe of plants, with succulent leaves ; and, notwithstanding the disagreeable odor which attaches to almost all the species, have been considerably cultivated in conservatories along with cactuses for the sake of their beautiful flowers. They are all natives of the Cape of Good Hope ; and the peculiar odor is said to be relished by the Hottentots there. The species now under notice has flowers of a dark chocolate color. Mr. Guérineau informed me that he afterwards noticed that the maggots were eaten by ants. The peculiar odor has given these plants the name of Carrion flower.

A still more rare and curious plant was shown last summer at the rooms of the Massachusetts Horticultural Society from the same garden. This is the *Desmodium gyrans*, an East Indian plant, with digitate leaves, of three leaflets, the two outer of which rise and fall in turns spontaneously, nearly all day long, in jerky motions resembling those of the arms of a semaphoric telegraph, which has given it the name of Telegraph plant. The central leaflet, which is much larger than the two others,

has a similar motion but much slower. These motions are best observed when the temperature is 80 deg. Fahrenheit. Unlike those of the Sensitive plant, they take place when the plant is entirely untouched. It is easily grown as a tender animal.

Salem, Mass.

Window Gardening.

NONE can have failed to notice how rapid has been the increase of interest in this subject the past three years. Indeed, it might be said that Horticulture has taken one of her periodic transmutations of fancy, and the popular favor having forsaken fruit, has now taken up flowers and window gardening. When a new volume upon this subject was announced some time ago to be issued from the pen of the editor of THE HORTICULTURIST, it was at once accepted as a most seasonable topic, and upon which there was an abundance of encouragement; and now, with the issue of the third edition within a month, needed to supply the demand, the results indicate that a peculiar vein has been opened in our floral literature which will prove immensely successful. It can hardly be expected of an editor to review his own publication, but a brief statement of the contents may be pleasing to the numerous readers of THE HORTICULTURIST.

There are contained over 300 pages in this volume, which, in unity of plan, are divided into three parts, for convenience of classification of topics:

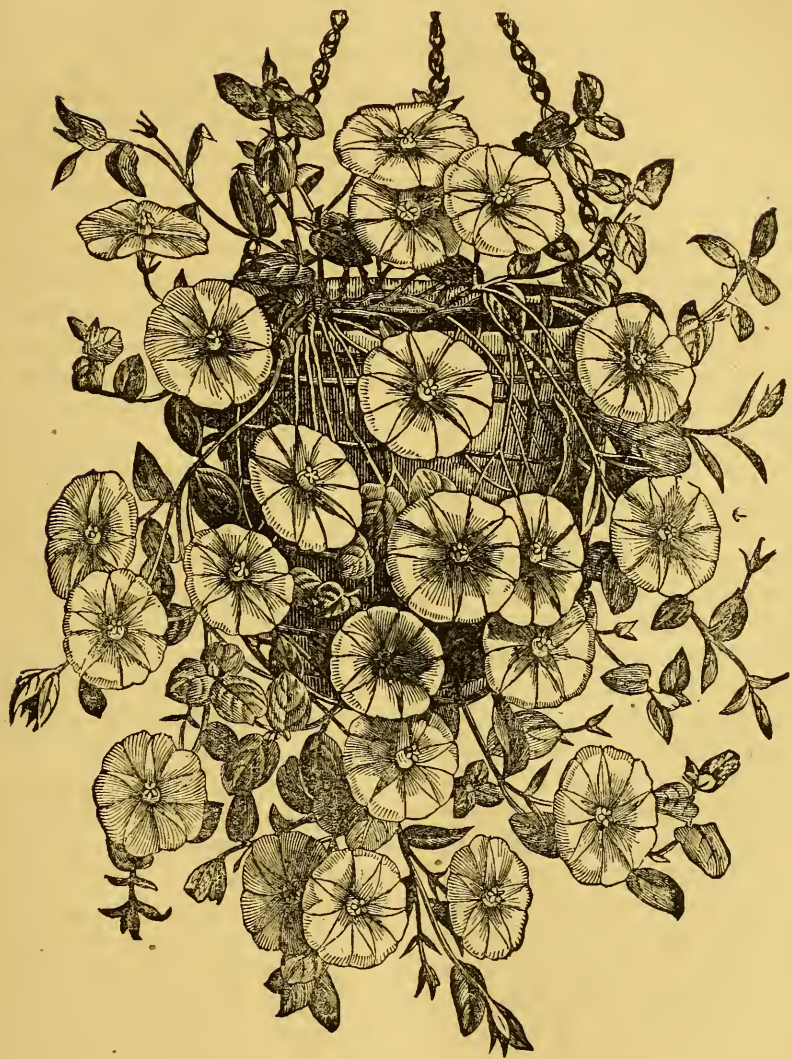
Part 1 considers the topics of the *Popular Taste for Window Gardens*, the numerous mechanical designs for building cabinets and conservatories, the general management, insects, and all needed instructions for the special care of plants during all the seasons of the year.

Part 2 is much the most complete, being devoted especially to the culture of *Plants for Window Gardens*, and comprises alone over 150 pages. Single chapters, such as Hanging Baskets, Ferneries and Wardian Cases, Bulbs, The Ivy for decorative purposes, Climbing Vines, Balcony Gardening, etc., are unusually full and minute, and profusely illustrated. Nearly all the plants suitable for in-door culture are named, and instructions given for their culture, and chapters upon Camellias, Roses, Fuchsias, Heliotropes, Geraniums, Bouvardias, Verbenas, Petunias, Carnations and Miscellaneous Plants, will be read with interest by the amateur.

Part 3 contains over 50 pages devoted to the topic of *Parlor Decorations*. Every idea that could be of use to ladies in the floral decoration of their rooms has been gathered together, and information about Ornamental-leaved Plants, Marantas, Dracenas, Palms, Caladiums, Cut-Flowers, Bouquets, Ornamental Grasses, Miniature Gardens, etc., is abundant.

The illustrations of this chapter are of an unusually beautiful description, while the entire volume is a collection of engravings of rare taste and pleasing elegance.

Candor and modesty must prevent us from saying more, but the accompanying illustrations of a Hanging Basket, and our frontispiece of the Balcony Garden, taken from the book, are sufficient to indicate its character. It is believed to be the most complete volume on the subject ever issued in this country, while its comparatively cheap price commends it to all.



Hanging Basket of Convolvulus.

The Currant Worm.

ONLY a few years ago the currant was, perhaps, the most easily raised of all our small fruits. Indeed it might almost be said to grow without cultivation, flourishing in spite of the weeds and rubbish with which it was often surrounded. But the imported currant worm (*Nematus ventricosus*), has changed all that, and threatens, unless checked, to destroy not only our crop of currants, but the bushes themselves. It is commonly described, as in a very full and interesting article in the American Entomologist, vol. II, page 15, as having two broods in a year, but the last season I noticed *three* well marked broods, appearing at intervals of about a month; the first in May, soon after the foliage appeared; the second, the latter part of June, and the third the latter part of July.

Besides the remedies usually recommended, I tried a powder called the Howe Cave Fertilizer, which was sent me by a friend who had used it with good effect in destroying these pests. To afford a better opportunity to observe its effects, some leaves, with worms of different sizes upon them, were gathered in the morning and covered with the powder, which evidently annoyed them, though they were able to crawl away quickly; but, by persistently pushing them back into the powder they were all dead in the course of the day. The same experiment was tried with the Grafton Mineral Fertilizer, a fine powder made from dolomite rock, found at Grafton, New Hampshire, with precisely the same effect. Yet the testimony as to the efficacy of both these articles, from trustworthy persons, is too strong to be doubted, and some have found air slacked lime effectual, from which I am led to suspect that the benefit resulting from the use of these articles has been caused by the leaves being rendered distasteful to the insects by having the powder thrown on them while wet; and no doubt, like all other remedies, they would be much more effective while the worms were young than after they were well grown. It should be remembered that the worm is not slimy like the pear slug which is so quickly destroyed with any kind of dry dust, so that the powder does not stick to them.

The experiment with the fertilizers was repeated with Colburn's Currant Worm Exterminator, which, judging by its color and smell, is composed mainly of carbolate of lime, and the same effect was produced, but much more quickly. A friend who used carbolate of lime found it quite effectual as long as the worms were young, but not when they were fully grown, while powdered hellebore was instant death to them at any stage of growth. White hellebore is undoubtedly *the* specific for the currant worm, but the greatly increased demand for it has caused it to be adulterated at the same time that it has raised the price. White oil-soap, with the addition of kerosene oil, has been found effectual, the proportions used being five pounds of soap and one quart of kerosene to twenty-five gallons of water. The soap and kerosene should first be thoroughly mixed, then add two pail-ful of hot water and stir till the soap is dissolved, and then add the remainder of the water cold, when it is ready for use. It should be applied forcibly with a syringe in bright sunshine. The middle of the forenoon is a good time, for then it will dry on to the leaves, whereas if applied in the evening, the falling dew gives the worm a chance to revive. After three such applications but few worms will be found.

When the worms make their appearance in a garden for the first time, the best way to destroy them is to pick off and burn the leaves having egg or worm on them, but after they have been allowed to propagate, it will be impossible to do this effectually, at least in large plantations.

The small, white eggs are found on the midrib and veins on the under side of the leaf, mostly round the lower part of the bush, and by plucking and burning a single leaf, we can prevent the ravages of perhaps fifty worms. R. M.

Strawberries.

The Farmers' Club, at Concord, Mass., discussed Strawberries at one of their meetings last winter, and, as many interesting facts of personal experience were elicited, we give extracts from a report furnished *The American Rural Home*.

F. G. P. said his first experience in strawberry culture, about ten years ago, was on a light dry soil, and the season being moist, a fair crop resulted. The next crop was on a side-hill, soil varying from light sandy to heavy loam and black mud. On the lightest soil but little fruit, and the white grubs troublesome. On the heavier soil a much better crop was gathered. The next year on similar soils, he obtained same results. He afterwards tried a field nearly level, the upper side of which was a black, clayey loam and running down to pure peat, and here he had his best crop. But such soil is more difficult to cultivate, owing to a stickiness after a rain, and the greater variety of weeds to be destroyed. Such soil requires thorough drainage before a good crop can be expected. Water is indispensable, but it must not be stagnant. His experience leads him to believe that a moist clayey loam, thoroughly drained, heavily manured and carefully cultivated, is the best for the strawberry; he thinks there is not much danger of putting on too much manure, if of the proper kind. Old stable manure, with twice its bulk of muck, and the addition of some home-made superphosphate, is probably as good a manure as can be devised. Leaves are good, both as a mulch and as a fertilizer, and bone and ashes are especially desirable. He believes the best way to set the plant is, one foot apart in the row, and let each plant, by its runners, set one on each side about a foot distant, stopping all further running. This is the medium between the hill and bed system. The hill system leaves too much ground unoccupied, and the bed makes too many plants. He believes the Wilson the most profitable market berry we have here at present. Would rank the Charles Downing next. The fruit of this is large, and continues so to the end of the season. The Cutter is excellent for family use, but too small for market. Has given up all the other *old* varieties, and is trying many of the newer sorts, hoping to find some superior.

Mr. T., last year, had a bed eight rods long and one-half wide (twelve square rods), received \$86 for the berries, or twenty-four cents a box.

Mr. W. H. H. had raised strawberries for two or three years. Last year he got 4,000 boxes from a little less than an acre. Set on sward land, turned over in spring. Moist clayey soil. Grubs rather troublesome on the drier part of the land. Plants, set four feet in the row, rows two and a half feet apart, two rows running together

to make one bed. They spread so as to cover the ground mostly. Plants too thick in parts of the field. This crop pays for good care. Wants the plants to cover the ground, standing about a foot apart. Where plants are thick not so much danger of winter killing. Has kept his last year's bed, but it was very weedy, especially was the sorrel troublesome.

M. F. preferred to plant so that most of the work can be done with the horse. The cultivator does the work between the rows, and the horse between the plants. Thinks the work per acre not more than half as much when kept in rows as in beds; but if enough more berries can be taken from the beds to pay for the difference in labor, that method may be best on the whole.

Captain M. plowed up the spaces between the rows in the old beds, then leveled them down with the hoe. Mowed the plants down as close as possible as soon as the beds had done bearing, and weeds. The weeding is not more than half as much work as a new bed requires. The crop is more sure. Sorrel has no business in a strawberry bed. All the varieties that bear large fruit, and send up numerous fruit stems, do best in hill culture. Hoveys do best in bed because they never have more than one stem. Had last year three acres in strawberries, giving at least 6,000 quarts to the acre,

Dr. R. said strawberry culture is a business of growing importance in all parts of the country. His crop has sometimes been good and sometimes failed. His soil is too dry. Irrigation would be a great help; would lengthen out the season. Will pay well where water is convenient, as this will save manure.



Waste in Products of Apple Orchards. Vinegar.

BY M. L. DUNLAP.

ON my library shelves is a long array of books, with the title of *HORTICULTURIST*, beginning with Vol. I, in 1846, a time when we of the West had little thought beyond herds of cattle and swine. The idea of the planting of large orchards, the laying out of lawns, or of surrounding our homes with the beautiful as well as the useful, had not as yet disturbed our thoughts. But the genius of growing that filled the pages of the *HORTICULTURIST* came to us month after month, and stirred in us new impulses; and lo! orchards and towns, and shelter belts and hedges, and walks bordered with flowers, appeared on the prairies, to give a home aspect to the prairie farms, when the winter wind and the summer zephyrs had alternately held sway. But the winter winds, without a lawn studded with conifers, or the farm buildings and orchards protected from its arctic breath, had no special attractions to the pioneer from wood-crowned hills and sheltered vallies of the Atlantic border, and the summer zephyrs vainly kissed the cheeks of beauty, without the roses of June for a contrast.

A quarter of a century has been added to the roll of time; a few short years, but they have been years of activity; 5,000 miles of the iron road have been laid within our State, its vast deposits of mineral coal have been laid open to use, and the whole aspect of the prairies have been changed, while the climate has undergone serious modification, as a consequence of pasturage, culture and the planting of orchards, hedges and shelter belts.

While our soil has many things peculiar to itself, and our climate puts on more continental airs than yours of the Atlantic slope, yet there are many, very many things in common that bind us in a mutual interest. We have looked to you for instruction, but we have not always considered the varying condition that steps in, to make null some of our best efforts; in short, we have been too much disposed to follow and repeat your failures instead of making a careful study of your success.

In our large orchards, we, like you, have allowed a vast waste. We have gone to the brewer and distiller for a liquid that is of doubtful value for a common beverage, and we have allowed the fabricator of vinegar from sugar of lead, sulphuric acid, whisky and stagnant water to supply the place of cider vinegar. A mixture of all these poisonous ingredients is fermented and allowed to drip through casks of corn-cobs, in order to produce a condition that may pass for vinegar.

We may say, without the fear of contradiction, that one-third of the product of the apple orchard goes to waste. I am aware that these are large figures and may startle many persons, but figures when set in goodly array never lie. Here we begin the marketing of the early summer apples about the 20th of July. Early Harvest, Red June, Sops of Wine and Red Astracan. We can only sell the best, sound, smooth, fair-formed apples, of good size, all the others must remain at home, and to put these at one-third of the gross yield is a low estimate. These apples are fully ripe, and might be made into cider, but cider at that season of the year is not much in demand, and if made will not keep more than two or three days. Now, a bushel of these ripe apples will, if grated and put in a powerful press, give off nearly four gallons of juice, and in time turn out three gallons of good vinegar. No water is to be added, and if pressed the second time, cider warmed must be added to soften the pomace, that the last drops of juice may be pressed out.

The same thing occurs to the autumn fruit, but now we may figure to select the sound, small and imperfect apples for early cider, but in pressing this we should stop when we have taken out two and a half gallons to the bushel of fruit, and reserve the remainder for the vinegar barrel. At this time we also have windfalls of all the winter apples that should be gathered and put into vinegar. With the fall apples we may begin to put up cider for winter, if we have a cool cellar and one well skilled in cider making. I have now part of a cask of cider made the first week in September, that people call good cider to-day, at least it has not as yet reached that stage that people call hard cider. I think, when here last winter, that you pronounced it good cider. I have no trouble in keeping cider sweet and in prime order, made after the first day of September; and I, therefore, close my cider making at the close of the apple gathering season. All the small, sound and imperfectly formed winter apples are made into cider, but three gallons from a bushel of fruit is the limit; it is then repressed for vinegar. The result is nearly two gallons of vinegar to one of first class cider. Taking the class of apples named, the second pressing of the cider apples and all decayed apples go to the vinegar. I have heard people say, don't put rotten apples into vinegar. In reply to these people I would say that good vinegar is made by putting the apples in a vat or leach tub, and as they decay the cider or juice will run out and makes a good vinegar, *i. e.* Shaker cider vinegar, an article that has been held in high repute.

If you think I have made out a case I will close, trusting that the day is not distant when the orchard and the vineyard will supply the market demand for vinegar, and that adulterators of our food be driven from their nefarious pursuit.

Champaign, Ill.

Strawberries. Their Varieties and Culture.

By James Draper, Worcester, Mass. Read Before Worcester County Horticultural Society.

In the discussion of the Strawberry, its culture and variety, there are two things to be considered, whether you are cultivating for the market, or your own table; for those that grow fruit for their own use, with especial reference to its finest quality, are apt to undervalue the many so-called common varieties, that the market grower finds most profitable.

I will endeavor to give you, in as few words as possible, the result of my experience and observation with the different varieties now before the public, having grown them both for home consumption and the market. In comparing the Society's list of Strawberries, adopted six or seven years ago, with those in cultivation to-day, we find that in the improvement of this fruit, in size, productiveness, and excellence of quality, we have made a very decided advancement.

Varieties.

At that time the Jenny Lind, Hovey and Triomphe de Gand were the only varieties of established merit; the Wilson, then in its earlier history was, on account of the strong prejudice against it, with difficulty placed upon the list, but notwithstanding it lacked appreciation then, it has steadily advanced in public favor until it has become the berry of the country, standing as the Bartlett among pears, or the Concord among grapes, the fruit for the people. Fruit of a higher standard of excellence, a cultivated taste demands, but to a large proportion of the fruit buying public, a strawberry is a strawberry, sweet or sour, and that variety which can be produced the cheapest, and in the greatest abundance, is the one to be desired. Many are the abuses to-day heaped upon the Wilson by those who have means to buy, or land on which they can grow choicer fruit, but among the large class of growers of fruit for the market, you will rarely hear a word of complaint against the Wilson's Albany strawberry.

By the introduction of the *Nicanor*, a variety produced by crossing the Wilson and the Triomphe de Gand, we expected to find a rival of the Wilson, and at first it certainly bid fair to succeed. It is a plant of unusual vigor and hardiness, fruit of good size and attractive in color, decidedly superior in flavor, an enormous bearer, and earliest of all; but lacking the essential element of firmness for transportation, it will not answer for market purposes. For the family garden as an early variety I know of none introduced up to the present time that will equal it.

The *Ida*, another early variety, proves to be a very heavy and certain bearer, but being small, rather soft, and sharp acid in flavor, it will hardly become popular. I have tried most of the other early varieties that promised well for two or three years, but either for want of size, firmness or productiveness, have had to be abandoned for those more reliable; among those discarded I might name the New Jersey scarlet, Philadelphia, Metcalf's Early, French's Seedling, and Jenny Lind.

The *Downer's Prolific* for a near market, I have found to be a very reliable and profitable variety; ripening with the *Wilson*, of good size, color light scarlet, flesh quite firm, rather acid but of good quality and very productive. This variety, the *Charles Downing* and the *Kentucky* originated with J. S. Downer, of Kentucky, and a better trio, for early, medium and late ripening varieties have rarely been introduced by the same individual.

Charles Downing begins to ripen before the *Prolific* is done fruiting, and continues long in bearing. It is a large and much better berry, of fine shape, and color of bright crimson, flesh quite firm, juicy, and of a rich sub-acid flavor. The plant is a strong, healthy grower and productive.

The *Kentucky* is the latest ripening berry that we now have. The fruit is equal in size to the *Downing*, but not quite as attractive in appearance, being somewhat irregular in shape, and of a dull red color, but it is a heavier bearer, and much superior in quality. For all kinds of soil, and especially for a light sandy one, where many kinds will not flourish, these have given the best of satisfaction, whether grown for home use, or the market.

Hovey's Seedling, well known to you all, is now rarely found in cultivation, except in the vicinity of Boston, where it was originated. Probably no variety has done as much to advance the culture, and encourage the improvement of the strawberry as this, and though we fully appreciate what it has done for us in this respect, we are obliged to lay it aside, to give place to the perfect-flowering, and more certain bearing varieties.

Scott's Seedling, *Brighton Pine*, and the *Lady of the Lake*, all originating with Mr. Scott, of Brighton, in this State, have had a fair trial; the two former we found to be of fine quality, but too light bearers for profitable culture. The *Lady of the Lake*, a pristillate variety, and, as such, generally objected to by growers, seems to be gaining in favor among marketmen. It is of good size, rather unevenly shaped, color a bright glossy red, flesh firm, sweet, and of good quality. When this variety is thoroughly fertilized it is very productive and profitable.

The *Agriculturist*, *Green Prolific*, and *Boyden's No. 30*, or *Seth Boyden*, originating with the late Seth Boyden of Newark, New Jersey, have also been tried quite extensively. The first is a very uncertain bearer, and on this account is dropping out of favor in this vicinity. The *Green Prolific* is of good size, rather firm and of fair quality; like *Downer's Prolific* it seems particularly adapted to light or sandy soils, and for a near market can be cultivated with profit. The *No. 30* surpasses in size any berry we have grown; its shape is somewhat round, with a long neck, color a darkish crimson, flesh as firm as that of any large berry; rich, juicy, of a decidedly superior flavor, and quite productive. For a market berry I should think it would prove profitable, and as a berry for the family garden it cannot but become popular. It has been stated that the originator once remarked, that he should not be satisfied in producing new strawberries until he had obtained one that would grow to the size of a pine apple, and on seeing his *No. 30* in fruit, one would think he was fast approaching to it. But here we shall have to rest unless another attempts its accomplishment, for *Seth Boyden's* work is done.

The *Triomphe de Gand*, a Belgian variety quite extensively grown here formerly,

has so often failed in producing a crop, that there are now but few cultivators that attempt to grow it. Probably no foreign variety, excepting the *Jucunda*, has given such general satisfaction throughout the country as this, but in this section our experience with it has been unfavorable.

The *Jucunda* seems to take the place of the *Triomphe*, and I think that every grower will acknowledge that it is the most satisfactory late ripening variety that we have; fruit large to very large, very evenly shaped, color light crimson, flesh firm and of good quality. Its firmness will equal the *Wilson*, and is sufficient to allow of transportation three or four hundred miles in excellent order. It has also a very attractive, glossy appearance that commands for it the highest price of any berry in the market. Its season of ripening is late, or after the entire crop of the *Wilson* and some of the other early berries have been gathered. This variety should be grown in hills to insure a good crop of the largest sized fruit.

The *Lennig's White* is the most exquisitely fine flavored berry extant; it is not a wholly white variety, as one would infer from the name, for the surface is somewhat flushed with pink. The flesh, however, is white throughout and quite soft, fruit of medium size, plant vigorous, and a moderate bearer.

Napoleon 3d stands next in point of excellence. The fruit is of the largest size and often coxcomb shape, color a dull pink that is not particularly attractive, flesh rather soft, white, very juicy and of a sprightly high flavor. The plant is a fair grower and quite productive. This is one of the best late varieties for garden culture.

The *President Wilder*, that we have watched with unusual interest, fruited with us last year for the first time, and it proved all that was ever claimed for it, a strong, vigorous growing, healthy plant, a good bearer, fruit of the largest size, color a light glossy crimson, flesh firm, nearly white, very juicy with an excellent sprightly flavor, unsurpassed by few, if any, varieties in cultivation. For the uniformly good record this has given throughout this State, and the very favorable impression it produced in our immediate vicinity, I should think it is certainly entitled to a place on a list of varieties that promise well.

The *Col. Cheney* is a new variety now being disseminated by A. M. Purdy, of Palmyra, N. Y. It promises well, showing size, firmness, good quality and productiveness, but wherein, either in growth of plant, form, color and size of leaf, size, shape, color and flavor of fruit, it differs in the least degree from the *Paragon*, a variety originated and partially disseminated by Col. Cheney himself, and for whom Mr. Purdy named this variety, I am unable as yet to discover.

We have also grown the *La Constante* and *Brooklyn Scarlet*, and find the fruit thereof excellent to eat, but very scarce in picking time; also *Russel's Prolific*, a large heavy bearing variety, of fair quality, but it decays rapidly on the vines, and often before the fruit is ripe. And furthermore we have had some little experience with the new, highly lauded varieties, that have appeared from time to time, varieties that were to amaze the horticulturists of the country, varieties that in productiveness were to be astonishing varieties, that in size would be wonderful to behold, varieties that would bear fruit from June to November. Varieties that in hardiness would stand any climate from Maine to Texas.

In this precious list (and precious they were, some of them costing ten dollars per dozen plants), are the Mexican Everbearing, Dr. Nicaise, Colfax, and Golden Queen. A little better than these were the Romeyn's Seedling (or the Triomphe de Gand with a new name) the Michigan Seedling, and I might almost add the Peak's Emperor, for it has too little real merit for a variety sent out with such a blast of trumpets.

Every grower of the strawberry, to any extent, is being constantly asked this question, "Which is the best variety to cultivate?" In answering from my own experience and observation, and from the opinions expressed to me by other growers in the vicinity, I should name for market purposes on a heavy loam or clay soil:

Early—Wilson.

Medium—Charles Downing and Lady of the Lake.

Late—Jucunda.

Very Late—Kentucky.

On a light or sandy soil:

Early—Downer's Prolific, or Wilson.

Medium—Charles Downing.

Late—Kentucky.

For Amateur Culture:

Early—Nicanor.

Medium—Charles Downing, Lennig's White.

Late—Napoleon 3d.

Very Late—Kentucky.

Varieties that are promising well—Boyden's No. 30 and President Wilder.

Culture.

This article might be extended at length by giving in detail the different modes of culture that have been practiced with the greatest success. I will only mention a few of the most essential points. A deep soil, if not naturally deep, made so by trenching or subsoiling is of the first importance; next to that is heavy manuring. We have used forty, and sometimes as many as fifty, cords per acre, and the crops have doubly paid for this extra outlay in manure.

The distance apart for setting plants depends largely upon the amount of land that can be given to their cultivation, and whether it is intended to use some horse labor. For field culture we prefer planting in rows four feet apart, and the plants one foot apart in the row. Then allow them to run evenly over the ground, using the cultivator between the rows, gradually narrowing it as the plants increase, and by fall we have a fine bed of plants with room enough between, to cultivate and gather the fruit. In growing in this manner it has generally been more satisfactory to depend on one main crop, and then plough under and set again, rather than to keep an old bed clear of weeds.

The hill system has many advantages over the other, as a plantation will last several years longer; it is easier to cultivate and keep clear of weeds, and the plants can be mulched in summer to greater advantage. This summer mulching is very important, and especially in a dry season; it not only keeps the fruit clean, but

keeps the ground moist, and the plants are more productive, and the fruit is uniformly larger, and consequently commands for it better prices in the market. This system involves the extra labor of clipping the runners as they appear during the season, but this extra labor is amply repaid, in the increase in size and quantity of the fruit. To grow fruit in hills we plant in rows two or three feet apart and about a foot distant in the rows, or where land is to be economized, plant in beds of three rows each eighteen inches apart each way, and the beds two and a half to three feet distant from each other.

As to the season for setting plants, I invariably take the spring months, as I then get the advantage of the late spring rains, which help the plants to get fairly established, and thereby secure a heavy growth of young plants, that will produce a large crop the next season. Some writers, but few growers, advocate planting in August; at that season the weather is hot and dry, and the roots of the young plants at that time being very weak, the shock incident to transplanting is many times greater than in the spring, and if the plants live, the crop of fruit obtained the next year will be very small.

In our climate it is absolutely necessary to cover the plants before winter sets in. Straw, hay, leaves or any coarse litter that can be obtained, must be spread over the entire bed or field, sufficiently to prevent the sudden freezing and thawing of the ground that is so injurious to the plant. This mulch is generally removed as soon as the weather becomes settled in the spring, but when grown in hills it need only be removed from the crown of each plant, allowing the rest to remain until after the fruit is gathered.

I need not tell you that in the after culture of the strawberry, like other fruits, the better care they receive the more satisfactory will be the result. I will simply say that unless a person can and will give this fruit the attention it requires, he had better not begin, for disappointment and failure are the inevitable results of a half cared for strawberry bed.

In the growing of the strawberry for the Worcester market the later ripening varieties have been most profitable, as the early fruit often comes into competition with that brought from the middle States. A grower would not be warranted, however, in growing exclusively the latter sorts, as there is a constant demand for the native fruit, and it will always command a higher price than that brought from a distance.

The constant cry of over-stocking the market with "small fruit" is now as common as ever. A few years ago I had increased my strawberry bed to an acre, and was constantly informed that I could not sell the fruit. Since that time I have increased their culture, together with raspberries and blackberries to ten acres, the crop last year yielding upwards of ten thousand quarts, which were readily sold in Worcester market, notwithstanding the large quantities brought in by other growers. This year I have every prospect of doubling the crop, with the assurance that they will be as readily sold in the same market.



Editorial Notes.

The well known house of R. H. Allen & Co., of this city, are agents for the sale of the Philadelphia Lawn Mower, which seems to be the best and most popular of all the styles now made in the U. S. The demand this year is far ahead of past seasons.

Loss of Evergreens.

The loss during the past winter of evergreens, both wild and cultivated, is something remarkable. New England seems to have suffered more severely than any other section; and, in a trip through Connecticut and Massachusetts, about May 1st, we could not fail to notice, upon the edges of the woods, or in open fields, how many evergreens held dead or withered branches. Those classes which have suffered most are the Hemlock Spruce and Cedars. The Pines do not appear injured, nor is the Norway Spruce as much damaged as the Hemlock. During a trip in the West, about April 1st, we did not observe that the effects of the long winter were as severe as in the East.

The Peach Crop.

Authentic reports are now received concerning the peach crop of Delaware. About one-third of a crop may be expected.

Strawberries.

The strawberry crop of Delaware and the South will be a very full one; the increase of this business in Delaware the past year has been very marked, the number of acres being fully doubled. The quality of Delaware berries has generally been very fine, and shipping facilities excellent. But we fear that, by another year, the raising of strawberries in Delaware will be overdone, and very low prices prevail.

Asparagus.

Seedsman tell us that interest in the Colossal Asparagus seems suddenly to have ceased—transactions in seeds or plants being, this spring, much less than usual. We do not understand the cause, as there can be no fault found with the variety. It is a kind well worth having. The only disinclination to its use must be in the expense of planting and manuring, and then the delay of three to five years before the bed reaches good bearing condition; very few can wait that length of time. A good acre of Colossal Asparagus will cost at least \$200 to keep in order until it is five years old. After it begins bearing, every acre will need \$50 worth of manure yearly, as the Colossal Asparagus is planted so wide apart (3x4), and usually three to five hills are needed to average one bunch; it can hardly be expected to get over 1,000 bunches of asparagus to an acre; a crop of 2,000 would be excellent. After bearing some time, doubtless the shoots might cut a bunch each, or 3,500 per acre,

Those who plant asparagus should not be misled by high estimates of yield or prices, nor forget the expense of care and culture. Those who make money out of asparagus deserve to have it.

The New Maples.

We are glad to welcome Mr. Barry's article on the newer varieties of maples. Such an article has been needed for a long time; as so many varieties of greater or less value have been introduced, we are anxious that the public should know their merits or demerits. We wish some one could tell us more about the *Acer macrophyllum* as a shade tree for our streets; also the *A. purpurea*.

The American Rural Home.

The horticultural department of this journal is one of the best of any agricultural weekly we know. Perhaps we ought to say *the best*, but we must not forget other good papers, like *The Country Gentleman*, *Prairie Farmer*, *Western Rural*.

The American Rural Home is published in Rochester, that grand head-center of horticultural fields, nurseries and solid knowledge, as well as liberal patronage; and friends Hopkins and Wilcox have admirable taste.

A New Variegated Ivy.

Prof. Thurber, of *The Agriculturist*, has been experimenting with a new Japanese Ivy—slips being furnished by Geo. Such, of South Amboy, N. J., under the name of *Hedera Japonica versicolor*. He states that it has been subjected to all the slights and exposures, any plant ordinarily meets with, and yet year after year it has grown freely, and put out its beautifully variegated leaves as cheerfully as if it had received the best of care. The form of the leaves in this plant is so changeable that is difficult to say what the normal shape is. The coloring is no less whimsical. Some leaves are merely edged with white; others, one-half white and half green; sometimes one will come all white, and again, a tinge of purple will be pleasingly intermingled with the white and green.

Production of Strawberries.

Novices can never get fully reconciled to the wide differences in estimates of production of berries to the acre. Yields of 6,000 to 8,000 quarts per acre once in a long time come to light, and amateurs just beginning their beds, generally bear this in mind and look forward to the estimate as possible for their own experience. On the other hand, yields of 1,000 quarts per acre seem too low to be trusted, and entirely inadequate to the desires of the amateurs' ardent enthusiasm.

We have now grown strawberries for five or six years for the market. Beginning with a very poor piece of land, which would not yield ten bushels of corn, we have manured it until it now yields fair crops. The first year it yielded but an average of 1,000 quarts per acre; the second year, 1,500 quarts; the third year, 2,000 quarts to the acre. This is the highest yet reached.

Nearly every grower in our neighborhood has received less yield per acre in proportion. Bear in mind that their soils are light loam, well drained, but also subject occasionally to drought. As this is the kind of soil most common in South Jersey and Delaware, we have found, from observation over an extended fruit district that, upon such soil, the average product yearly, per acre, is but 1,500 quarts. Where there is a heavier soil and some moisture (for strawberries will double in size and quantity if the ground is moist about time of ripening), we believe 2,000 to 3,000 quarts can easily be obtained as a steady average.

Upon heavy clay soils, well drained and manured, in climates north of New York, the product can be carried up to 4,000 to 6,000 quarts per acre. All estimates of 200 or 300 bushels per acre as a steady crop, may be set down as wild and unreliable. Estimates of 1,000 to 2,000 quarts may be depended upon generally, as a fair average

for the market plantations south of New York. In occasional years, the yield of some beds will touch 3,000 or 4,000, but in other years they will go below 2,000, or even 1,500; a reliable estimate is 2,000 to 3,000 quarts per acre.

Irrigating Strawberry Beds.

We remind fruit-growers, that if it is possible to irrigate their beds at time of fruiting, their fruit will be increased in size and quantity. Water is at that time equivalent to manure, and stimulative. We have no doubt it will make a favorable difference of one-third in the crop. The only objection we can see is that it tends to later ripening.

The Golden Yew.

Professor Thurber says that, despite the severe winter, the Golden Yew has not only shown no signs of winter killing, but, with the first bright days of spring, the tips of its branches begin to turn yellow and healthy, and give promise of that golden glow which makes it so conspicuous an object upon the lawn.

Rapid Work.

Peter Henderson has a smart gardener in his employ, who can pot 5,000 to 7,000 cuttings in a day of ten hours. An ordinary day's work is but 2,000 cuttings, but *Jim*, a young man of twenty-five years, has done as high as 7,000. One of his old foremen has planted as high as 10,000 cabbage and lettuce plants in a day, while the work of an ordinary man is but 2,000 to 6,000.

Painting Buildings.

Considerable trouble has always been experienced from poor white lead, and buildings often need new coats every two or three years. We could wish for either better paints, or more honest painters, who will not cheat us in the mixtures. Has any one found a better paint than the Averill? This last, applied three years ago to a church, is to-day better and handsomer than when first put on.

Grafton Mineral Fertilizer.

We certainly do not know what to say concerning this curious article. Most of the New York papers condemned it a year or two ago, but it still lives, and gains friends. Robert Manning, in his article, this number of *THE HORTICULTURIST*, says it drives off the currant worm. F. Trowbridge too, of New Haven, says it is successful there in driving off the turnip fly. Joseph Breck, of Boston, says it is very successful with him in driving off all common garden insects, bugs on vines and vegetables. Daisey Eyebright says it is the best thing she ever used for flowers, in-doors or out. So, with such a cloud of witnesses, we conclude there must be some good in it, and have ordered samples to try. It contains only twenty-one per cent. of carbonic acid, which is immediately soluble in water, and besides this, we know of nothing else of value in its constitution. It comes in the form of a dry grey powder, entirely without smell, clean and pleasant to handle. It is more properly an Insect Exterminator than a fertilizer, as its merits seem to point to more success in the former line than in the latter.

A New Horticultural Journal.

We have to laugh at the quasi horticultural department, opened in *Old and New* last month, to accommodate the relicts of *Tilton's Journal of Horticulture*. The *Nurseryman's List* is sandwiched between advertisements of religion, heterodox as well as orthodox, and spiced with announcements of new novels. We suppose the publishers of *Old and New* intend to keep up a humorous department, and this new field of horticulture will do about as well as anything for the purpose.

The Clematis.

We want more information about the Clematis. This subject which opened with our frontispiece last fall, and the timely article this spring, by Al Fresco, has elicited much interest, and inquirers ask for more. In foreign journals we notice announcements of new varieties, which possess a wonderful fragrance. Among the varieties described as possessing this fragrant character, are *The Fair Rosamond* and *Edith Jackmanii*, in which the violet odor predominates. Some have the characteristics of a combination of the violet and primrose, and in Mrs. Moore, the primrose is strongly predominant. These new varieties are the result of crossing the *Clematis Prateus Fortuneii* on the *Clematis Jackmanii*.

Honor to an American Horticulturist.

More than a page of the *Gardener's Chronicle* was lately taken up with an illustration and historical sketch of our well-known friend, Marshall P. Wilder. Thus is merit becoming world-widely known.

New Contributor.

We welcome to our pages this month, the articles of Robert Manning, the former editor of *Tilton's Journal of Horticulture*.

The Ranunculus.

This flowery plant, so delicious in the spring, is called by a good English authority "one of the most beautiful and neglected of florist flowers," and he then says "that no flower surpasses the Ranunculus in brightness of flowers and symmetry of form, and in variety of combination of tints. When massed in a bed it as far surpasses the Tulip and Anemone as the moss surpasses the briar rose."

How Cultivation Affects Peaches.

A Marylander, who has examined twenty orchards in Delaware and Maryland, finds that in those orchards which were well cultivated, the buds of peach trees were plump and healthy, while in those where tilling was neglected, the buds were badly blighted. The cause is plainly obvious. Those which received cultivation commenced forming their new wood early in the season, and thence the buds had acquired sufficient strength, and were well matured, to endure the cold weather when it set in. On the other hand, those neglected ones, having made but little wood, and being ushered into the winter in a premature condition, being in a soft, spongy state, are sure, nine times out of ten, to perish.

Lafayette & Co.

This humbug firm has disappeared, where next to appear, it would be difficult to tell. Likewise, it is difficult to see who could have patronized an establishment with such preposterous claims. Those who were gulled do not read the Horticultural journals. Those who bought were mostly ladies who knew nothing of the merits of plant or flower. The Company had a little basement office, which somewhat resembled that of a florist whose only occupation is the making and selling of bouquets. Probably, many passers by, out of curiosity, strolled in there, and were overcome with the description of the curious and wonderful plants.

Hydrangea Paniculata.

Who is growing this, and how successful is he? Is it equal to description and former eulogium? It is mentioned among new and rare plants, as particularly worthy of notice, and the finest flowering shrub of recent introduction. It grows from eight to ten feet high, and bears large pyramidal panicles, from twelve to eighteen inches long. Its flowers are white, and continue long in bloom.

A Fine Pear Tree.

One Pear tree, fifteen years old, in Springfield, Mass., is stated to have produced \$320 worth of fruit, during the years 1870 and 1871.

Money Wasted.

It is said that thousands of dollars have been expended in Germantown, during the past fifteen years, on Delaware and Iowa vines, and if an offer of \$10,000, for ten bushels of these grapes, were made, they could not be brought forward,

A Profitable Apple Orchard.

To show what good treatment will do, we quote the success of Mr. Leonard, a practical fruit-grower, of Orleans county, New York. He manures his trees yearly. His orchards yield every year. His apples are large and fine, no poor ones. Fifty Baldwin's apple trees, fourteen years old, yielded, last year, two hundred barrels of fine apples, which sold for \$3.25 per barrel, or \$650.

The Expensiveness of Flowers.

When fashion resorts to flowers to assist in her decorations, her purse must open wide. Few know the extravagant prices which many flowers bring here in this city at certain seasons. Estimates have been made that the flower trade of this city is one million dollars annually. This would require sales of only \$100 per day to each of thirty florists. The curiosities of this branch of trade are well delineated in an article published in the *Journal of Commerce*:

"As the love of flowers is developed, the demand for them increases. Boston and Philadelphia are called upon, almost daily, by telegraph, to make up the supply for New York. None but perfect flowers are wanted, rare varieties eagerly sought and handsome prices freely paid. Here, during the winter, the usual price of handsome rosebuds is twenty-five cents each; violets bring about the same price per dozen. Camellias sell readily for twenty-five cents a piece when in large supply, and range from that to one, two and three dollars a piece during the winter and near the holidays. Hand bouquets are sold from fifty cents upward. What the florists term good hand bouquets bring five dollars; extra fine, from five to ten dollars. Occasionally, some are sold for fifteen and twenty dollars. Baskets of flowers, well arranged, sell from five dollars to twenty-five. Stands range from fifteen to fifty dollars, and extra large ones from fifty to one hundred and fifty. They have been sold here as high as three hundred dollars. Crosses and wreaths usually range from five to thirty dollars. A cross of flowers, in one of the Brooklyn churches, on Easter Sunday, cost one hundred dollars. Refreshment and dinner tables are decorated with bouquets ranging from five to twenty dollars, and sometimes higher. At private entertainments it is not unusual to see from one hundred and fifty to three hundred dollars worth of floral decorations, and at a wedding reception given in this city a short time ago three thousand dollars were represented in flowers and plants. It is said that at the last ball given in this city by the Americus Club, when Irving Hall was connected with the Academy of Music, and filled with exotics and native plants, rocks and fountains, rustic arbors, flowers and singing birds, the botanical collection was loaned to the club that night for the sum of six thousand dollars.

"Fifteen years ago the average cost of flowers at a funeral was about ten dollars. Now it exceeds one hundred, and sometimes more than one thousand dollars' worth is required."

Trees in Victoria.

Recent explorations show that the great Australian trees exceed in height, though not in circumference, the giants of California, though some of the Australians must be regarded as very respectable in girth as well as height, the hollow trunk of one of them being large enough to admit three horsemen to enter and turn without dismounting, while they led a fourth horse. A fallen tree in the recesses of Dandenong, Victoria, was measured not long since, and found to be 420 feet long; another on the Black Spur, ten miles from Healesville, measured 480 feet. The highest trees on the Sierra Nevada, California, yet discovered, reach only 450 feet, the average size

being from 300 to 400 feet in height, and from twenty-five to thirty-four feet in diameter. The wood of these trees closely resembles red cedar, and the reddish brown bark is sometimes eighteen inches thick, and the age of some of the oldest has been computed at 2,000 years.

Floral Notes.

Best Plants for House Culture.

The California Horticulturist says that the following list of plants have proved with them the best adapted for house culture: "Zonale Geraniums, both single and double, Cactus, Camellia Japonica, Ferns, Heliotrope, Ivy, Hoya (wax plant), Saxifraga, Azalea, Auricula, Begonia, Cuphea, Diosma, Lobelia, Lantana, Myrtle, Oleander, Chinese Primrose (*Primula Sinensis*), Aphelandra, Bouvardia, Caladiums, Hibiscus, Salvia, Poinsettia, Orange, Gesneria, Gloxinia, Euphorbia, Daphne, Cyclamen, Cinerarias, Calceolaria, Clerodendron, Chorizema, Stephanotis (climber), Myrsiphyllum (climbing or trailing) Coleus, Palms." This list will be found very useful to the amateur, as none are mentioned in here which have a chance of failure under reasonably good treatment.

Rose Rendatler. Geranium.

It may not be generally known what a very useful plant this is for winter flowering; its bright pink flowers are brighter now and of a better shape than they are in summer, and they are also produced very abundantly. I have a house half full of it, that has been a mass of flowers for the last three months. The cuttings were struck late in spring, and grown in the open air in six and eight inch pots; not plunged, but placed on bricks, and in September were removed to a light, airy house, where the temperature is not allowed to fall below 40°. The plants are now many of them perfect little specimens, fit for a dinner table, with five or six fully developed trusses on each. I have given many other kinds a trial for winter flowering, but never found another half so good as Rose Rendatler. This I have grown and watched five or six winters, and it has never failed.—*The Field.*

New Bicolor Geranium—Pride of Mount Hope.

The European varieties of gold and bronze-leaved geraniums do not endure our bright summer suns well enough to answer a good purpose for bedding out, but Ellwanger & Barry have raised a seedling from Mrs. Pollock, that well known and most beautiful tricolor, which they believe will meet the wants of florists in this particular. It is a bicolor of vigorous habit, the leaf-ground golden yellow, very handsomely set off with a broad, well-defined, bronzy-red zone. Instead of fading out in our bright summer's sun, the yellow leaf disc becomes of a more deeply golden hue as the heat of the sun increases, thus enhancing the beauty of the foliage and heightening its effect. The foliage is said to be smooth, of good form and substance.

English Violets.

These can hardly be said to be good border plants, as the foliage is very apt to get injured, in the necessary covering to winter them, and as the flowers come out in the first warm days in spring with foliage destroyed, good flowers are a failure.

The best way to raise these deliciously scented flowers is in the cold frame, in which the flowers come to perfection just before winter leaves us. The way to prepare them is, say in April or May, divide the old plants into single pieces, and put in rows only one foot apart each way, in the moistest spot at command; better also if partially shaded by a building or wall during the summer months. Then, their near neighbors, the pansies and daisies, are all rather touchy to keep alive under our glaring sun and hot dry summers.

To form good stools, keep the runners cut during the summer. Early in the fall

take up with as much soil as possible and plant into your cold frames, with a sheltered and warm exposure for the winter.

It is not desirable to put on any glass covering until hard frosts intervene, as if kept covered close at this particular season, growth is too rapid, and the foliage becomes drawn and watery. Give air during warm weather, otherwise keep close and covered from frost until about the first of March, when flowers will begin to show pretty fast as the sun gets more power.

The first sorts to flower are the single ones, and among the very best are the Czar and Lauchena; then come the doubles. First to open, the old Russian blue and similar flowers. Among the best of this class are Imperatrice Eugenia and the King of Violets. For late use and delicacy of color comes the Neapolitan—a double of a charming shade of pale blue, while the others are mostly dark blue. There are whites also, but, unfortunately, none of these are very free of flowering. We have grown the Queen, a large double white, for years, and have never succeeded in getting a full show of flowers. This is not, after all, of so much importance, as the name and fragrance is associated with these blues rather than whites.—*Prairie Farmer*.

Flower Beds.

To cultivate flowering plants to the best advantage, requires as much care in the selection and preparation of the soil as any other crop. No one would expect to grow a crop of cabbages in soil overrun by the roots of trees and shaded continuously by their dense foliage, yet how often do we observe flowering plants placed in such circumstances, producing a few meagre flowers in the early part of the season, perhaps, and dwindling and dying as soon as a few dry sunny days occur. Most summer flowering plants blossom on the points of branches, and, therefore, to produce a continuance of flowers, there must be a continued healthy and vigorous growth. It is true there are some flowers adapted to shade, like the fuchsias, daisies, etc., and these should be selected for such positions. Heliotropes and some of the geraniums do well where there is sun only a few hours a day.

Select an open exposure where the sun will have free access to the plants, dig the ground very deep, and dress heavily with thoroughly decomposed manure, so that the roots may have some supporting resort when the surface moisture fails.

A small circular or oval bed ten or twelve feet in diameter, properly prepared and planted with flowers from pots, will produce a continued mass of flowers even in the driest summers. In arranging the plants, there is much latitude for taste, and very striking combinations may be secured.

Rose beds are much more beautiful and satisfactory, when only a few well known, hardy and continued blooming kinds are employed, than when planted indiscriminately, with robust and tall-growing sorts crowding those of more delicate growth. In larger yards, where several beds can be made, there will be a better opportunity for a display of this kind of cultivated taste.—*Germantown Telegraph*.

Early Flowering Roses.

The *Cottage Gardener* recommends as roses for early flowering in a conservatory, the following kinds: Marechal Niel, La Boule d'or, Madame Willermoz, Adam, Souvenir d'un ami, Alfred Colomb, Charles Lefebvre, Baronness Rothschilds, La France, General Jacqueminot, Countess of Oxford, Christine.

Stakes and Supports for the Garden.

A correspondent informs the *Technologist* that he has now in his possession stakes for flowers and shrubs which have been in constant use for over nine years, and their points are yet perfectly sound. "I take," he says, "common coal tar and bring it to the boiling point in a kettle some ten to twelve inches deep; I then place the lower part of the stake in the boiling tar, immersing it as deeply as the pot will allow. After remaining therein about ten minutes, I take them out, allowing the surplus tar to drain off, and roll the tarred portion in clean sharp sand, covering

every part of the tar. After they have become perfectly dry I give them another coat of tar, completely covering the sanded part." He keeps the upper parts well painted.

Grafting the Coleus.

It may seem to be entirely superfluous to suggest an improvement upon the many beautiful varieties of *Coleus* now in cultivation. But it should be the aim and pride of every florist to make some change or add another shade of color or form to every plant under his charge; and now that the newer *Coleuses* are really almost, or quite perfect, in both form and color of leaf, he must try his skill in another direction and graft the various varieties upon one stock. Take, for instance, a strong plant of *C. versaffelti*, and graft a light golden-leaved variety upon the first tier of branches; upon the next, one of a darker shade, and so on to the lower, which may be the deepest colored of all. Then reverse this order in color upon another plant, or put a different variety upon each branch. Magnificent specimen plants can be made in this way, and such novelties are always attractive and highly appreciated. We throw out these hints hoping that at our fairs next fall we shall see many such specimens.—*Rural New Yorker.*

Soil for the Gladiolus.

The soil most suited to the gladiolus is a sandy loam, and of course it should be free from stagnant water. The great point in securing fine bulbs is to plant as early as the season will admit, in this latitude, say from the first to the middle of April, depending upon the season; this year until the last of the month. They should be planted about three inches below the surface, and then, even if there is slight spring frosts, no injury will result. The consequence of this early planting is, the bulbs are enabled to commence root action before the hot weather sets in to force top growth, which is desirable in all bulb growing.

While this early planting is favorable to the gladiolus, it does not hold good with the tuberose. It is useless to plant these in the open ground until real hot weather comes, say until corn grows pretty freely. As far north as this, and more particularly near the lakes, which cause the springs to be cold and backward, it is quite desirable to give tuberose bulbs the benefit of a hot-bed, so as to get them well started before planting out. Indeed, it is well to plant at different times; the first batch, in March, in the hot-bed, the second in the open ground at the end of May. If the last are kept in, say, about six inch pots all summer, they can, if not quite done flowering by fall, be brought into the house to finish. Greenhouse men often have them in flower all the winter, but to do so takes a very high temperature, and but few flowers to a bulb. The side shoots of the tuberose, planted out in ground similar to that recommended for gladiolus, will furnish flowering bulbs for the next year.

General Hints.

In cleaning and digging one's flower beds and borders in the spring season, it is well to divide large masses of hardy perennials, or the flowers are apt to come smaller than on vigorous young stools. The hardy phlox, not near often enough met with, is very much benefited by this division of the roots.

Pæonias will sometimes become so weakly in growth from age of stool that but few, if any, flower buds form, and these fail to open freely. In such cases dig up the whole plant, divide into pieces so that each separate plant has only two or three shoots, plant in good, rich soil, and in a year or two the vigor of the plant will be greatly improved, and with it the flowering properties.

The best way to arrange hardy perennials is in mixed borders, backed by shrubs and evergreens. If not planted too thick, or while the shrubs are getting to full size, here and there a hollyhock planted among them has a pretty effect. Indeed, we like to see not only these, but such common things as sunflowers, even in such cases. Of course there is not much beauty in the common old single thing that springs up in neglected places, but the dwarf double varieties, with flowers nearly as

big as one's hat, nodding in the breeze, if not planted too plentifully, give variety to the scene.

Another class of plants, too, for one or two of which we leave space for in this connection, is the castor oil bean, simply as a means of obtaining contrast of foliage.—*Cor. Prairie Farmer.*

The Rose for Out-door Culture.

Situation.—The rose will flourish in almost any situation where the soil is suitable and suitably prepared; but where somewhat protected from the midday sun's intensity it seems to flourish best, other things being equal. So situated as to receive the rays of the morning and evening sun, the blossoms are more full, perfect, and last longer in perfection; it is not well, however, to have them entirely shaded. A full exposure will almost entirely ruin some varieties which are tender, to the full light and rays of the sun.

Soil.—The rose will grow in almost any soil; but that in which it delights is a strong rich loam, and well decomposed vegetable mould, cow dung or horse dung. But as we are not at liberty, always, to choose, we may modify or supply any deficiency, so far as possible, by culture, etc. Be sure and make the soil *deep, rich, mellow, and well drained*; for the rose will not supply us with its full beauties where these essentials are wanting; no danger of overdoing in these respects.

Planting.—The rose may be planted either in the spring or fall, preferable in the fall. If done in the spring it should be done very early; or, if done late, cut back to only a few buds. Very soon after first fall frosts is time to commence transplanting. Young healthy plants are to be preferred to old ones, wherever a choice is to be had. Old plants more frequently disappoint the cultivator than otherwise. When the plant is dug great care should be exercised to lift the roots entire, neither to break, cut, or bruise them. Examine them, before planting, and if any have been injured cut them off smooth, with a sharp knife—and it is always best to cut from the under side with an outward slope; shorten upward, downward growing roots. The rose all ready, dig the hole large enough to spread out the roots to their full extent, dig up and loosen the bottom and, if necessary, add enriching matter; set the rose in place and fill in the rich soil, working it in around the roots with the fingers and hand. When the plant is finally adjusted, the upper roots should be close to the top of the ground; be sure the roots are all fixed steady and solid, with the soil in close contact.

Pruning.—Spring is the time for pruning, and the only time, in cool climates. The aim in pruning should be to compensate for the loss of roots, aid in forming the bush, reduce superfluous wood, and to induce profuse blooming. It is difficult to give arbitrary rules to be adopted under all circumstances, but for general, annual pruning, the old wood and weak growths of the last year should be cut out. Young strong wood produces the finest, most perfect flowers. In pruning climbing roses, cut out all shoots not likely to furnish blossoms, and retain the whole length of young vigorous shoots. Aim to give a wide spreading top in pruning; if properly pruned it will spread annually, by degrees.—*Maryland Farmer.*

Horticultural Notes.

Ammonia and Flowers.

Farmers and chemists are well aware of the beneficial effects of ammonia on all kinds of vegetation. If you desire your roses, geraniums, fuchsias, etc., to become more flourishing, you can try it upon them, by adding five or six drops of aqua ammonia to every pint of warm water that you give them; but don't repeat the dose oftener than once in every five or six days, lest you stimulate them too highly. Rain water is impregnated with ammonia, and thus it refreshes and vivifies all vegetable life.

Ammonia is soluble in soft water, and a little of it may be dissolved in the water you use on your plants. It is much cheaper than the aqua ammonia as sold by the druggists.

Marquis of Lorne Cucumber.

The English gardeners are noted for their skill in producing immense cucumbers. Their climate is not suited to the growth and full development of this vegetable, except under glass, and consequently the fancy varieties bring fancy prices. The Marquis of Lorne cucumber is one of the latest novelties, and is described by an English paper as having a beautifully short neck, perfectly smooth skin, is very straight and extraordinarily productive. As an exhibition variety it is unequalled, on account of its immense size, yet it is most symmetrical in form, and is the finest cucumber ever introduced. The flesh is very solid and firm, with but few seeds, while the flavor is exceedingly fine. It grows from two feet to thirty-seven inches in length. It is the result of a cross between the "Invincible" and "Needle-gun" varieties.

Sowing Flower Seed.

The time is now approaching for sowing the seed of annuals and of other plants, and it is important that the work be properly done. We once employed a novice to sow some seed, in the absence of a better gardener, and he resolved to do his work well. He accordingly buried the seed so deep that few ever came up, and the seedsman was denounced for selling what was bad. A portion was left for a time, and then sowed in a hurry, the man having time only to give a thin dash of earth over them. These came up profusely, and the reputation of the seedsman was rescued. The rule which we have adopted for beds in open grounds is to cover all seed from three to five times their shorter diameter—small seed receiving only a slight sprinkling, and larger a more copious sifting of the fine mould. No seed should be sown when the soil is not dry enough to be reduced to fine powder. The best soil is sandy loam, but a larger proportion of clay makes a good material if dry enough to be made perfectly mellow. The addition of sand and leaf mould will make any soil of proper consistency. The best way to sow seeds is, in the first place in drills or circles; then the weeds may be easily taken out. If sown broadcast, it will be more difficult to keep the bed clean. Provide a quantity of finely pulverized mould in a basket or barrow, and cover them by sprinkling it evenly over with the hand. Avoid soaking the beds with water until the plants are up. If the surface is likely to become too dry after sowing, which is often the case, put on a thin gauzy mulching. This may be pulverized moss, thin canvass, or even a newspaper. Every person who plants a flower garden should know the hardy plants, which usually come up soon, and may be sown early, from the tender, which are often more tardy in appearing, and should be sown later. Most seed catalogues designate these separately.—*Ex.*

Potash for Peach Trees.

At the meeting of the Cincinnati Horticultural Society, Mr. Shepard alluded to potash as a most excellent fertilizer for peach trees. He had a peach orchard of about twenty-five acres; the soil was poor, and manured with potash only. One barrel, costing \$35, or fifteen cents a pound, lasted him four years. He dissolved it in water, so that the lye would be so weak that a potato put in would not quite come to the surface, and then applied two quarts of this liquid close around the trunk every spring. From 2,000 peach trees he had sold during the past five years \$12,000 worth of peaches. His crop had been in 1867, 1,500 bushels; in 1868, 600 bushels; in 1869, 1,400 bushels; in 1870, 350 bushels; and last year 1,800 bushels. He had also a good prospect for a crop this year, the buds being nearly all perfect.

Soluble Sulphur and the Red Spider.

R. Varden writes the *Garden*: "I use this in spring in large quantities for the destruction of red spider on gooseberry and currant bushes, and prepare it as follows: I slack some quicklime, and mix it with about half its weight of common flour of

sulphur in a heap, with a little water, as in making mortar. After lying a few hours, I boil it for twenty minutes in a large boiler of water, in about the proportion of one gallon to one pound of the mixture. This produces a sulphurous liquid, about the color of porter, two or three pints of which to a two-gallon bucket of water is strong enough for syringing; but we test the strength, by dipping a spray into the bucket, and get the liquor just strong enough not to damage the leaf. If too strong, the leaf withers in an hour or two.

Small Fruits in New Jersey.

At the late meeting of the Pennsylvania Fruit Growers' Association, Wm. Parry stated that he knew one man who had received \$10,000 at one time for his strawberries, and added: This man undoubtedly understood his business; his success was not because strawberry growing was inherently profitable in itself—and he would probably have succeeded equally with any other business. The premium crop of strawberries in Burlington, N. J., was 263 bushels per acre, yielding a profit of over \$1,000. The average is hardly one-third of this amount. Raspberries have been known to produce 200 bushels per acre. Their price ranged from 5 to 60 cents per quart; net profits of \$263 per acre have been made on them. Blackberries sold as high as 50 cents per quart. One cultivator in West Jersey has 75 acres in them, and sold last year \$20,000 worth of fruit, with a profit of \$14,000. Another made \$200 per acre profit. The West Jersey Fruit Growers' Association estimate \$250 per acre profit on all small fruits from the return of 776 acres; another estimate makes the profit \$272 per acre. Of cranberries over 150,000 bushels were produced last year, from 2,000 acres of land already producing, while 4,000 acres more are planted and will soon be in bearing. This is two-thirds the quantity of the whole United States.

Summer Pruning of Raspberries.

Dr. Warder stated, at a late meeting of the Cincinnati Horticultural Society, he had been and still was a strong advocate of summer pruning of raspberries. But, to be beneficial, it was necessary that it should be attended to early—often before the ripening of the fruit. And this summer pruning should not be done with a "slashing" knife, but the tip of the canes should be simply pinched off, when the canes had attained to the proper height, say to 2 feet, 2½ feet, or 3 feet. If this system was pursued, it would tend to throw out plenty of laterals, with an abundance of fruit buds, and the canes would become stocky and self-supporting, thus dispensing with the necessity of stakes. He was not surprised that the large growers of Black Cap raspberries in Clermont county should be opposed to summer pruning. *They* did not want laterals, because laterals would be in the way of cultivation by the plow and the cultivator; and, besides, the canes with no laterals being tied up to the stakes, gave great facilities for picking fruit rapidly.

Mr. Cox admitted that where summer pruning had been attempted, it had usually been on the slashing plan, thus checking and stunting the growth of the canes. If it was done by simply pinching, and done early, it might not be so objectionable.

Mr. Hammit said he was greatly in favor of summer pruning. He usually pinched off the tips twice; that is, in the first place, he pinched off the earlier canes, and afterwards those that attained the requisite height later in the season.

Clermont County System of Cultivating Black Cap Raspberries.

Mr. Cox said that the plants were first put out four feet apart, and so arranged that the ground might be ploughed both ways. In the spring this is turned back, and then the soil is cultivated.

The most successful growers are particular to do most of the cultivation in the spring, only slightly stirring the soil afterward to keep down weeds and to promote a condition of soil to absorb moisture from the atmosphere.

The Japan Pear.

Mr. Quinn speaks in the *Tribune* of it thus: "This curious-looking fruit has attracted considerable attention from amateur fruit-growers within the past few years. Not so much from the quality of the fruit, as from the remarkable growth of wood it makes, and the profusion and size of its leaves. We have specimens in the orchard grafted a year ago last spring; that made shoots last season ten feet long and three-fourths of an inch in diameter at the base. The leaves on those shoots are five or six times as large as the ordinary pear leaf. The tree does not shed its leaves until a month or six weeks later than the common pear, and from the first of September until the first of December, the Japan Pear makes a beautiful ornamental tree, and the foliage becomes equally as brilliant as the red maple.

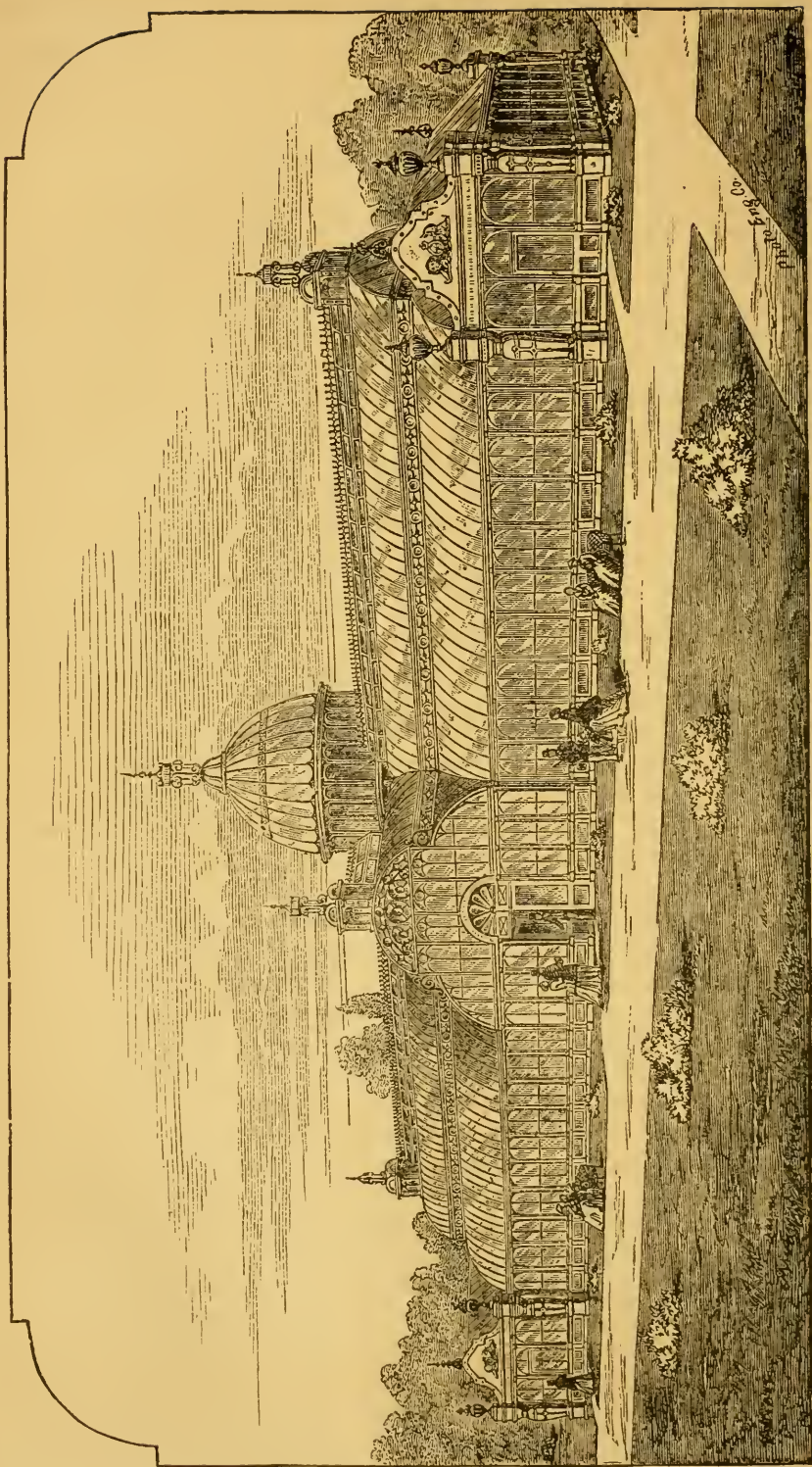
"We have two varieties, and they are undoubtedly seedlings of the old Chinese Sand Pear. James Hogg says in the December number of the *Agriculturist* that both of those varieties are quite common in Japan, where the fruit is used for domestic purposes. The fruit of the Japan pear looks more like the russet apple than it does a pear, but the wood and leaves have the characteristics of the pear. One of the varieties is quite fragrant, having a pleasant aroma, not unlike a fine quince. Two years ago last fall we had some of these pears put up in the same way as preserving quinces, and to our surprise we find they make very excellent preserves. The tree makes a very rapid growth, bearing early and abundantly. The fruit looks like ropes of onions, they are so thick on the branches. So far, the insects have not punctured or injured the fruit in the least. In two bushels of these pears, gathered last fall, there was not a single specimen with an insect mark. With further trial the fruit may prove a substitute for quinces for preserving purposes, and they may be valuable on this account. But even admitting the fruit to be without merit the Japan Pear will make a handsome addition on the grounds as an ornamental tree. The trees of this variety that we have, are grafted on a pear, and the union seems quite as good as it does with the common pear, grafted at the same time. Next spring we intend to re-graft the Japan stock with the Seckel and one or two varieties to see if the rapid growth of the former will exert any change on the latter either in wood or fruit."

Currents.

About fifteen years ago I received as a present cuttings of the following varieties: White Grape, White Dutch, White Crystal, Cherry, Mays, Victoria, Large Red Dutch, and Black Naples. After planting in the usual manner, I took particular pains to cultivate them well. Every spring the ground has been top-dressed profusely with ashes, leached and unleached, well incorporated with the soil under and around the bushes, and has been kept from grass and weeds. Immediately after this application they are mulched with barn-yard or chip manure. The result has been that I have never failed of a large crop of the finest and largest fruit, and entirely free from the worm.

Near these bushes (perhaps sixteen rods away) I have some of the old common varieties, which have not been similarly treated, but left to take care of themselves, and, as a consequence, they are nearly destroyed by the worms, the leaves during the past two summers being entirely, and many of the smaller twigs totally, destroyed. I have come to the conclusion, therefore, that the larvæ of the currant worm lie dormant during winter in the ground near the bush they intend to attack the next season, and that mixing wood ashes with the soil destroys them. I do not profess to be an entomologist, but I certainly can arrive at no other conclusion. I am now growing quite a number of bushes in the tree form; i. e., one bush only in each place, six feet apart each way. The advantages consist of easier cultivation, easier gathering, and larger and finer fruit.—*Ex.*





NEW WINTER GARDEN, AT EDINBURGH, SCOTLAND.



VOL. 27.

JULY, 1872.

NO. 313.

Proposed Botanical Garden, N. Y.

A MEXICAN merchant in New York city, has proposed the plan of an establishment of a Botanical Garden in New York city, the idea having originated from a little incident which occurred at his house, as mentioned by Dr. Naphegyí himself.

A prominent physician of this city was admiring a plant in my conservatory and asked its name. I replied, "Why, Sir, you have prescribed that thousands of times; it is *Jalap*." In an address before the Farmers' Club, N.Y., he says: Our young men, and especially physicians, study botany from books and by theory, but they have not the opportunity of studying from actual observation the form and nature of the plants from which are made the medicines they use. It is my object to establish such a garden that it may be used as a school of actual practice. In this I have found myself nobly aided by some of the first men of the city, and in a few days we have reached a subscription of \$55,000, and have made arrangements for four lots on Madison avenue.

The project is assuming some definite plans, and the following is taken from the Prospectus. "It is proposed to establish in the City of New York a botanical garden or a practical school of botany, such as exists in Paris, London and other principal cities of Europe. An establishment of the kind is needed in New-York, and such an enterprise will not only be a useful institution for instruction, but also an ornament for the city. In our institutions, such as the Medical College, the College of New York, and other establishments of learning, botany is only taught theoretically, without the opportunity to the student to have this branch of the service practically demonstrated. An establishment of that sort will be a crystal palace in which there will be placed on exhibition the most rare specimens of the 'Flora' of nature, and while it will be a practical demonstration for those who strive for knowledge, affording them an opportunity to become acquainted with the great variety of nature of which

they only read or see designed on paper, it will also be a resort for the cultivated mind, and of great interest in a commercial point of view. The knowledge possessed by the people of the North of the great floral wealth of Central and South America is very limited. Europe has agents in these countries and augments her conservatories yearly with new specimens and discoveries, while New-York has no store-room at all to exhibit that wealth of our continent. All the medicinal plants known to the civilized world, dye-stuffs, precious and ornamental woods, are the products of these countries, and the establishment of a botanical garden where those exotic plants will be placed on exhibition will cause the natives of Brazil, Guatemala, Costa Rica, Honduras, Ecuador, Peru, Chili, Mexico, and, in fact, the whole of South and Central America, to remit specimens of their plants and flowers to this garden, for it will awaken not only the egotism of reducing and exhibiting the wealth of their native lands, but being aware of the enterprise of the North it will afford them the opportunity to render advantageous those riches which until now were rendered unavailable. The botanical garden will be a public resort and a practical school not only for the male and female students of the various colleges of New-York, to the chemist, botanist and physician, but also the public in general will be included, to enjoy the opportunity to cultivate their taste in beholding and examining those rare productions of nature, of which until now they were deprived. The party who is at the head of this enterprise is the well-known traveler, Dr. Naphegyi, who has for many years traveled in Central and South America, being well acquainted with the most influential and scientific men of those countries, and who has volunteered his services not only for the supervision of the garden, but also for the importation of exotic plants, and New-York may soon hope to be in possession of an institution which will rival, if not excel those of Europe in the diversity and beauty of its specimens. Prospects in a financial point of view: It is proposed to establish a practical school of botany, which, at the same time, will be for the public in general a winter garden. An establishment of this kind must prove a profitable enterprise to the Company, for the following reasons: First, it will be a practical school of botany for all the students, males as well as females, in the city of New-York; second, there are many persons in this city who will visit the garden for their natural taste for flowers; third, for curiosity seekers it will be one of the most attractive institutions in New-York; fourth, for the general public it will be a great resort of amusement, especially in the winter season, which will afford a moral enjoyment to the sight and mind; fifth, the youth of New York will congregate there in the long winter evenings, preferring it to any other amusement; sixth, the public in general, the merchant prince as well as the poorest laborer, will try to gratify his curiosity of becoming acquainted with the rare plants of these countries, and both men, women and children will spare their penny and pay an admission to a place where they can pass an hour or two in an innocent enjoyment."

All such enterprises, in the hands of competent men, rightly managed, will be always a pleasure and a benefit. We have fears, however, that either the plans will be found too expensive, lots too high-priced, the location being in a costly part of the city, or that the receipts from admission will not be as large as are needed for its maintenance. The public spend money freely for amusement, but slowly for informa-

tion. When the fine conservatories of the Central Park are completed, and all the most rare and beautiful of conservatory plants are displayed free, such botanical garden as this proposed by Dr. Naphegyi, will either become private property not dependent upon income, or must take its place as a florist's stand for the sale of plants.

The New Winter Garden at Edinburgh.

AN elegant structure has been erected the past year at Edinburgh, Scotland, for the purpose of a Winter Garden and public Conservatory, concerning which the horticultural world of Great Britain have exhibited a worthy enthusiasm; public interest in its successful establishment has very generally been elicited. We are glad of the opportunity to present a fine engraving of it, which appears on our Frontispiece. The construction, detail, plans and idea of it are well worth copying by some of the public spirited citizens and horticulturists of this country.

The structure has been admirably planned and adapted to the purpose intended.

In the front there are four massive stone pillars, which will be surmounted by five clay naves. The building is in three stages—the upper roofs being convex glass roofs. Each stage of the roof is finished with elegant iron cresting, with finials on the points, which are seven in number.

The roof is supported on iron pillars, connected by light ornamental iron-bronzed girders.

The structure consists internally of a large hall, with a kind of transept, and a door leading out to the nursery behind. On the east side of this—the main part of the structure, are two smaller apartments, one to be used as a “*small flowering plant*” room; on the west side will be a waiting room. The large hall, however, will be a real winter garden. It is surmounted by a fine dome, forty-five feet high. Under the dome will be a fire clay fountain, seventeen feet high. The building has tables for flowers, about two and a half feet wide, running along the walls. Inside of these a walk, six feet wide, goes all round the hall, and is carried along the transept to the back door.

This walk will consist of two feet of iron grating, with hot water pipes under; and on each side of that, two feet in width, will be laid in encaustic tiles.

The ventilators are so arranged that large groups of them open with one handle; and they are so finely balanced that a child could open or shut them. The frontage of the structure is one hundred and thirty-six feet. To the rear of this building there is a hot-house, about fifty feet long from east to west, and twenty-eight feet broad, for tropical and warm climate ferns. At the east end of this fernery commences a long structure of two floors. The ground flat, which is of brickwork, will be used as boiler, potting, packing and counting rooms, and a soil store. The upper flat is of wood and glass, and will be used to prepare plants for the palace.

New and Valuable Plants.*Celosia Huttoni*, Sp. n.

THIS very beautiful plant was introduced by Mr. Hutton, from Java, through the mediation of the Messrs. Veitch, who gave it the name of *Amaranthus Huttoni*. As, however, its floral structure is precisely that of *Celosia*, we publish it under its proper generic name. For garden purposes, its bushy, well furnished, pyramidal habit and crimson or claret colored leaves, will render it very attractive. In any case, its rich color, resembling that of *Iresine Herbstii* when well colored, will insure it a welcome.

The Plum Simon (*Prunus Simonii*),

Is stated to be the most remarkable of all that have been brought from China. The *Revue Horticole* says it is very interesting in a scientific point of view, as a fruit of a new type. M. Eugene Simon sent it originally from China to the Museum of Plants at Paris. It flowers early in the spring, and it is therefore considered only semi-hardy. Its nut resembles those of the Amygdalace, or Almond tribes, while its flowers united with the flowering plums. Its culture is not difficult, as any soil suits it that will grow peaches or plums, though somewhat tender. It is highly ornamental. Its fruit is peculiar in its flavor, and is somewhat aromatic. Its nut is flat, broad as it is long, and resembles that of some kinds of peaches.

The Tropaeolum tricolor

Is considered a very beautiful plant. Trained on light net work, they form the lightest kind of a screen. The foliage is of the lightest and most delicate green, and when this becomes studded with thousands of blossoms of scarlet, black and gold, or blue or yellow, as the case may be, they are beautiful objects indeed.

Lælia Jongheana.

In the *Lælia Jongheana*, says the *Gardener's Chronicle*, you have a novelty of the first rank. This is a new hot-house plant belonging to the orchids. "Imagine shining wood, small bulbs of darkest green, very shiny, exceeding think, quite a leaf beauty; the flower is like *Lælia majalis*, but of the most brilliant amethyst color, as bright as that of the *Vanda* tree itself; sepals narrow, petals very broad, a little crisp, the lip with pale amethyst; side laciniae, all beautifully colored."

A New Strawberry.

The "Irrepressable" is the name of a new French strawberry, said to be ever-bearing, obtained by M. Mabile, of Limoges (Aante-Vienne), from the seed of the strawberry *Ananas du Chili*, crossed with Trollope's *Victoria*, which is described as a "large continuously bearing strawberry, which produces fruit as large as the English or American kinds, and continues to bear up to the first frost." Ed. Andre, in *l'Illustration Horticole*, says: "We do not hesitate to strongly recommend it, not only for its intrinsic value, but because it will, without doubt, prove the parent of large fruited and really continuously bearing varieties superior to itself."

New Double Fuchsias.

The *Gardener's Chronicle* mentions the following as the latest and best of English new varieties:

Avalanche.—This is the most noble fuchsia in its class yet sent out. The tube and sepals are of a light carmine and pink, the latter short, though of good substance and well recurved; the corolla is pure white, exceedingly large, and very closely set with petals. The plant is of free growth, although the wood is thin and wiry, and is a most profuse bloomer for a double variety.

Champion of the World.—This is by far the largest fuchsia that we yet possess. The foot stalk is of unusual length and strength, so that the flowers stand out boldly. The tube is short, the sepals are very broad and of great substance, well reflexed and of a most beautiful coral red. The corolla is of immense size, and as it expands, forms two-thirds of a perfect ball, its color being of most intense bright, dark purple. The plant is of free growth, tall and blooming abundantly, so that for conservatory decoration it is one of the most valuable fuchsias yet sent out.

Honeysuckles.

The sort known as the Belgian, is the best flowering one in a collection of six or eight I have. From about a dozen small plants of it, a constant succession of bloom has been had. Its fragrance is most delightful; a small bunch of the flowers gathered to-day, emits a perfume which pervades the whole room. It is also a very rapid grower; the flowers before they expand, show an entire rosy pink surface, but on the opening, the yellow of the inside of the corolla is shown, thus making a pleasing contrast. The new Japan sort, *L. Halliana*, was sold first by some as a perpetual bloomer; this I have found is not its character. With me its value consists in its flowering after the old Japan and the Chinese have done. It is true that a few flowers may occasionally be seen on it at different times throughout the season, as in older varieties, but they are not sufficient in number to, with truth, be called ever-blooming. The Belgian possesses the qualities the *Halliana* was advertised to have, and is far more fragrant, and continues blooming till frost.—*Gardener's Monthly*.



Those Beautiful Pinks.

THERE is nothing in the world of flowers more desirable, the rose and pansy excepted, than a fine bed of pinks. In ordinary seed, I would advise the more inexperienced to procure the seeds mixed of the German, Italian, China and Japan varieties. By skillful cultivators pinks have been greatly improved, both in form and diversity of coloring, within a few years past. Surely, no yard should be without these; for while the beautiful dress they put on more than compensates all outlay, flowers act like magic in the formation of character with all the household, refining the sensibilities, and promoting domestic contentment and happiness.

Were more attention given to the cultivation of flowers, husbands would find their homes more attractive, wives would be more cheerful, and children would be more likely to seek home pleasures, where their virtues would take stronger growth than in the associations generally met with abroad,

Lima, N. Y.

CHAS. D. COPELAND.

New and Valuable Garden Flowers of late Introduction.

(From the *Gardener's Magazine*, London.)

DELPHINIUM nudicaule.—Its dwarf, compact, branching growth, hardy constitution, and free-blooming habit, taken in connection with the novel and striking color of its flowers, render it one of the most valuable of recent importations. Its usual height is about twelve to fifteen inches, but it is occasionally dwarfer, and a few specimens have reached two and a half or three feet, a fact of the utmost promise to the florist, exhibiting as it does the tendency of the plant to vary from seed. The foliage is mostly green, but in many specimens both the leaves and stems have a purplish tinge, which considerably enhances the attractions of the plant. The flowers are produced in loose spikes, each blossom being about one inch in length, the spur being in some instances straight and slender, in others thicker, shorter, and more hooked. The color varies from light scarlet to a shade verging closely on crimson, and when seen in the open air, especially in sunshine, dazzles the eye by its brilliancy. It is perfectly hardy, having borne the severe winter of 1870–71 uninjured, and is so early in its growth that it may be almost termed a spring flower, though by planting in various aspects, and sowing at different seasons, it may be had in bloom during most of the spring and summer months. It succeeds in almost any soils except such as are stiff and retentive. It was exhibited both at the Royal Horticultural and Royal Botanic Societies' shows in June, 1870, and on each occasion received award of a first-class certificate. It is important to remark that this plant is quite distinct from the *D. Cardinale*, introduced many years since, and greatly superior to it, as well as vastly more manageable.

Agarista calliopsidea.—Under the name *Leptosyne maritima*, by which it was received from California, this very pretty annual has already been described in previous editions. We now learn with much regret that we have unwittingly given currency to an incorrect designation, and that the proper name of this plant is that given above. The true *Leptosyne maritima* is a perennial, and has even larger flowers than the *Agarista*, but it is unlikely to succeed the latter in utility or interest, few of the hardy annuals being more showy or of easier cultivation in good soils.

Lychnis Lagasæ.—A charming little dwarf evergreen Alpine plant, already known to many amateurs under the name of *Petrocoptis Lagasæ*, but now first offered in seeds. It forms a nice, compact tuft, from three to four inches high, with neat obovate foliage, and deep rose-colored flowers, produced freely in April and May, but often more or less throughout the season. It is well adapted for pot culture, or for the warm side of the rock garden, and also succeeds in the open border in well drained soils. It is scarcely distinct from *L. pyrenaica* specifically, but it is undoubtedly a well marked variety, being of better habit, and producing more deeply-colored flowers. It also blooms several weeks earlier. A native of the Pyrenees.

Corethnogyne spatulata.—This neat composite is closely allied to the genus *Aster*, but differs notably from most species in its general habit. It forms a low tuft, rarely exceeding one foot in height, with numerous flower stems, more or less branched, and clothed with obovate, serrated, and sometimes tomentose leaves, one to two inches

long, each bunch bearing a large showy flower-head, nearly two inches in diameter, with many narrow ray-florets of a lilac-purple color, and a yellow disc. It blooms during the entire summer. The root is perennial and quite hardy, but it flowers readily the first season, if sown early. It is a native of Northern California, and is the only species of the genus at present in cultivation.

Ageratum Mexicanum, var. *Imperial Dwarf*.—This plant having been extensively grown during the past two summers, is now pretty well known; it will therefore be sufficient to state that it differs from the original species only in its much dwarfer habit, on which account it is better suited for small beds, and for purposes for which the taller variety is ill adapted. A fair proportion of seedlings will, it is to be presumed, inherit the dwarf habit, and these can be readily singled out from the rest of the batch.

Amaranthus Atropurpureus.—If the amateur will picture to himself a very dwarf and somewhat spreading variety of the old Love-lies-bleeding, *A. caudatus*, he will have a tolerably close idea of this new candidate for public favor. It appears to be a really very desirable plant, producing from much-branched bushy stems, about a foot and a half high, numerous drooping racemes of blood-red flowers, the foliage being of the same bronzy red as in *A. caudatus*. It will doubtless be very serviceable for masses. Introduced from Calcutta.

Amaranthus salicifolius.—A remarkable plant introduced by Messrs. VEITCH & SONS, from Manilla, and very distinct in character. It grows with a single stem to the height of two and a half or three feet, and is branched in a pyramidal manner, the lower branches being the longest. The foliage is from five to seven inches in length and a quarter of an inch in breadth, with wavy margins and drooping extremities; at first green, or bronzy green, it assumes, as the plant increases in strength, a bright orange red color, becoming at the same time more elongated, the whole forming a most effective mass of plume-like character. Equally valuable as a pot plant or for the open ground, singly or in masses.

Aralia sagaliensis.—Of this novelty, which is at present unknown in English gardens, we condense the following description by the introducers: "A magnificent hardy herbaceous species from the island of Sagalin, with fern-like, spreading, pinnate-decompound foliage of gigantic size. It resembles the *A. racemosa*, but is incomparably superior and larger in all its parts. Suitable for planting singly on lawns or for the background of borders."

Callisace dahurica.—Among the most characteristic features in the vegetation of eastern and northeastern Asia, may be named the gigantic Umbellifers, which occur in such abundance. Of these the *Callisace dahurica* is a remarkable example. It is said to attain the height of eight feet, with leaves six feet long and four feet broad, the sheaths of the petioles being very large and curiously formed. As may be supposed, the plant will endure even an Arctic temperature with impunity.

Eriogonum fasciculatum, var. *polifolium*.—Under the name of *Eriogonum suffrutescens*, a plant was introduced last season by a French firm, which we now learn, by the kindness of Dr. Asa Gray, is properly the variety named at the head of this paragraph. It was collected by Roehl, in Utah, and differs from the few species

hitherto cultivated in its shrubby habit. It grows about two feet high, is clothed with small foliage, and bears near the summit numerous umbels of small white flowers. Though distinct, it is less ornamental than *E. umbellatum*, and is referred to here chiefly that its correct name may be known.

Hutchinsia Alpina.—This plant, though by no means new in botanical sense, is very rare in gardens; it may be desirable to state that it is a very neat dwarf ever-green Crucifer, growing in rosette-like tufts, with glossy pinnatifid foliage, and short erect racemes of pretty snow-white flowers, which are large for the size of the plant. It is said to be a very desirable Alpine, suitable for rock-work, pot-culture, and probably also for well-drained borders. Native of the Pyrenees, and also of the Swiss and French Alps.

Lobelia Fabri.—This novelty is supposed to be a hybrid between *L. syphilitica* and one of the many forms of *L. cardinalis*, and is remarkable for its robust growth, reaching it is said, the height of three feet or more. The whole plant is more or less clothed with a grayish down. The flowers are produced in long terminal racemes, one to two feet in length, and are of a lilac-rose color. It is probably quite hardy. Its specific name is given in compliment to Professor Fabre, of Avignon, by whom it was sent to the Jardin des Plantes, Paris, several years since.

Mimulus Roezli.—This species is described as being closely similar to the pretty Peruvian *M. cupreus*, differing chiefly in its color, which is a bright yellow, the throat being prettily dotted with red. It does not exceed four inches in height, and is very hardy, being found high up on the Sierra Nevada, California. Though flowering the first season, its root is doubtless perennial.

Malvastrum grossulariæfolium.—Under the name of *Malva aurantiaca-rubra*, we received last spring from the south of France seeds of a plant collected by Roezl in the mountains of Utah, which we are kindly informed by Mr. Asa Gray is a smooth variety of the *Malvastrum* above named. It is a perennial plant, growing about fifteen or eighteen inches high, with weak stems and half-trailing branches, clothed with small lobed and incised foliage of a grayish hue from stellate hairs, and producing from the upper axils small clusters of pale red flowers. It is decidedly worthy of culture in extensive collections, and in dry soils is likely to prove hardy, though it will bloom the first year with the treatment of half-hardy annuals.

A Convenient Plan for Hanging-Baskets.

LINE with moss with a little soil attached. Place in the center a small pot containing a showy plant of upright habit; fill up the surrounding space with rich woods and old hot-bed soil; fill in with plants of a climbing or trailing habit; when the center fades, you can replace it by a fresh plant. In filling a basket, select plants of a similar nature—such as like shade and moisture—the Fuchsia, Lobelia, Ivy Geraniums, Ivies, Linaria, Panicum, Balms, Gold and Silver Vinca, Ferns. A basket for a hot, sunny situation should be filled with Coleus for center, also Petunia (double), Sedums, Convolvulus Minor, Nasturtiums, Begonia, Mignonette for trailing. A Carnation will make a constant blooming center—a Coleus a brilliant one.—*American Farmer*.

Notes of a Trip to California and Oregon.

III.

BY J. A. DONALDSON.

THE morning after our return from up the Columbia, we took the cars at East Portland to return to Sacramento by the overland route, which enables one to get a view of the three principal valleys of Western Oregon, viz.: the Willamette, Umpqua and Rogue River Valleys; and also the Sacramento Valley, of California.

During the early settlement of California, farmers in the Willamette Valley who had planted orchards, sold apples at enormous prices to the speculators of San Francisco. It is said as high as sixty cents per pound was paid at the orchards. This stimulated the farmers of Oregon to set orchards, and consequently fruit is in great supply. The late keeping varieties of apples are the most profitable, as these can be shipped South to countries too warm for the production of long-keeping apples.

As we passed through Oregon City we noticed the apple, pear and plum trees in door-yards and gardens were bending under their loads of fruit. Many of the trees were disfigured with nests of the tent caterpillar, showing that Oregon had, at least, one of the pests of the East. At Salem, the capital of the State, we had, through the kindness of Mr. Earhart, of the Chemukata House, the pleasure of a ride through the city, and a visit to several places of interest to the fruit-grower. At the residence of the Rev. J. L. Parrish we found a variety of fruits, which were remarkably fine, considering that the ground was in sod. His apple trees were bearing heavily, yet the fruit was of good size and very fair.

Among the variety of plums was Coe's Golden Drop, the fruit of which was very large. Mr. P. informed us that they always ripened well. The Columbia was also very fine. An Oregon seedling called the Helm Plum is cultivated by Mr. Parrish. It resembles the Columbia. The Beurre Easter and Duchess d' Angouleme Pears, both on pear stocks, were bearing moderately, very large and fine looking specimens.

Called, also, at Mr. E. N. Cooks', whose residence is embowered among beautiful shade trees. In his garden the apple and pear trees were bearing immense loads. The limbs of the Vicar of Winkfield and Bartlett pears were bent nearly double, and yet the trees were making a good growth, and the fruit was of fair size.

The cherry trees looked very healthy, and had borne, we were told, very large crops the present season.

It is remarkable that thoughtful Dame Nature, in the distribution of seeds, omitted to give the Pacific Slope its share of the nut-bearing trees of the East. The chestnut, hickory, black walnut and butternut are, it is said, not to be found west of the Rocky Mountains. As the chestnut will not bear to be transported a very long distance, a chestnut orchard in Oregon or California could not fail to be highly remunerative.

Continuing our journey from Salem, we arrive at Harrisburg, the present terminus of the railroad, in the evening, and take the stage for the northern terminus of the California and Oregon Railroad. At Eugene City, eighteen miles south of Harrisburg, we laid over a day. Here, as everywhere else on the route, the apple, pear and plum trees were bearing plentifully.

Leaving Eugene City at midnight, we pass during the night from the level prairie lands of the Willamette valley to a wild, hilly country, heavily timbered, principally with fir. From here much of our road winds around the steep sides of mountains, and as the stage creeps up the long steep hills, the passengers often walk to relieve the horses and amuse themselves with gathering the yellow, shining particles in the little streams that trickle down the mountains, to find that it is just as true on the Pacific coast as anywhere else in the world, that "all is not gold that glitters."

As we approach the southern part of Oregon, it will be observed that peach trees are planted more extensively, and are bearing good crops.

At Teherma, California, the stage is exchanged for the cars, from which we get an extensive view of the beautiful prairies of the Sacramento valley.

Arrive at Sacramento at noon, and spend a couple of hours looking at the fruit exposed for sale. The display at some of the fruit stores was very interesting. Some of the clusters of the White Muscat and Black Prince Grapes were exceedingly large. These, we were informed, were grown on vines that were irrigated, and though selling better for table use, did not bring as much for wine as grapes grown without irrigation, not being so rich.

At one stand, kept by a Jew, was a variety with extraordinary large berries. We inquired the name, but the proprietor could not give it, and *allowed* it made no difference what the name was. It was enough to know that they were *grapes*.

The Bartlett Pears were very nice, and are as much of a favorite with Californians as with the people of the East.

After laying in a stock of fruit to last us over the mountains and deserts, we bid adieu to Sacramento and took the train East, with a just appreciation of the comforts of a palace car, after a ride of five hundred miles by stage.

Dr. Abel Stevens, of the *N. Y. Methodist*, and Professor Plympton, of the Polytechnic Institute of Brooklyn, were on their return home, and made the time pass pleasantly with their intelligent conversation and interesting accounts of the wonders of California.

The rugged scenery of the Nevadas lose nothing of their interest by being seen the second time, and we give them particular attention during the afternoon, for it may be our last opportunity to view them.

Before leaving home we anticipated great pleasure in seeing the tallest mountains of California and Oregon. We were within thirteen miles of Mount Hood, at a point where Mount Adams is usually seen, and passed very near Shasta, but the smoke from the fires in the mountains hid them from view.

The morning after leaving Sacramento found us in the sage-brush deserts, with little to interest the traveler.

The miserable Indians are punctual in their attendance at the stations to receive whatever the passengers are pleased to give them. To one of these red braves we are indebted for a lesson in the art of getting the greatest enjoyment out of good food. Among the solid contents of a spittoon emptied from the cars at one of the stations, were a few partially picked clusters of White Muscat Grapes. An old Indian advanced cautiously, surveyed carefully, and much to his credit for good taste, selected the grapes and left the tobacco. The grapes he ate very slowly, putting

one berry at a time in his mouth, while his thoughts seemed entirely turned inward upon the delightful sensations within. He gave ample time for the taste of one berry to pass away before taking another. That Indian may be regarded as a *natural* philosopher in the art of eating.

We are sorry to say that his beloved wife, who stood by his side, received no invitation to share with him.

It seems a great pity that so many thousands of acres, rich in all the elements of farm produce, and lacking nothing but water to fit it for the plow, should remain so worthless. It is certainly unfortunate for the railroad to be obliged to run over so many miles of a country that contributes so little to its business.

Perhaps, at some distant day, when the *Plains* are densely populated, this parched land may be reclaimed by the aid of artesian wells.

After a month's ramble over the dry countries of the Pacific, the fresh green grass of the Platte Valley is a welcome sight.

At Omaha the passengers divide and scatter in various directions, and though they have ate, and slept, and talked together for four days, not one takes another by the hand and wishes him good-bye. The reason is obvious—they had no *formal* introduction.

Suggestions upon Planting Home Grounds.

THE *American Farmer* considers it bad taste, in arranging groups of trees on extensive lawns, or in public parks, to mix up evergreen kinds with deciduous ones, as the latter, in the majority of instances, overgrow and spoil the character of the former, and then there is no warmth or beauty in the scattered appearance they present. We prefer massing evergreens by themselves, and deciduous trees the same way. With the latter an eye must be had to the contrasting of the various forms of foliage, and the different tints of color each presents in the fall.

The majority of people crowd their trees too much—that is, do not allow them space enough. Another great error is often made in placing them too close to walks and carriage drives. It is no unusual thing to see a Norway Spruce or White Pine planted within two to three feet of the verge of a fifteen foot road or drive. Now if the land is good, and such trees are permitted to remain unmolested, in ten years from time of planting their lower branches will have reached the opposite side of the road. As a general rule no such kind of trees should be planted nearer than twelve to fifteen feet of any walk or drive, allowing each room enough to develop its fullest and fairest proportions—only planting thick when you wish to hide from view an unsightly object, or as a screen for shelter—and avoid, if at all possible, dotting the lawn with single specimens of roses and other small shrubbery; they are constantly in the way in keeping the sod neat, and the effect is bad, or worse than that. Such articles show to more advantage when grouped in a bed or border, where the ground can be manured and worked.

In this latitude, and farther South, we recommend planting deciduous trees in the fall, or as soon as the leaves drop; for evergreens, we prefer the months of April and May, and, if the plants are small, they can be moved with safety on to the first of July.

We offer a few remarks on the massing or bedding-out of flowers. The planting in some situations in solid clumps, with such plants as Cannas, is often desirable for effect, but when the plants are of small size we prefer the ribbon system—that is, planting rows of one kind after the other, and, should the bed be oval, circular, or of some other solid form, choose the tallest plants for the center or back, grading down to the last row; a little taste is necessary in placing the colors in succession, so as to secure harmony, and we would suggest for a center or back: First, *Amaranthus Melancholicus* or *Achyranthus*; second, *Scarlet Sage*; third, *Purple Globe Amaranth*; fourth, *Ageratum* (blue); fifth, *Heliotrope*; sixth, *Sweet Alyssum* or *Blue Verbena*.

We have seen a fine effect produced by a narrow bed, along both sides of a walk, filled with three rows of plants, the back one *Coleus Verschaffeltii*, or *Scarlet Geraniums*, the second *Heliotrope*, the front row *Eschscholtzia Californica*, the latter by seeds sown in the ground.

On the lawn, groups of three or four kinds of *Ricinus*, or *Castor Oil Plant*, produce a marked effect by the bold character of the foliage and stately habit of the plant.

Notes on Pears.

Beurre d'Anjou.

THIS variety is a very vigorous grower and an abundant bearer, and the fruit is large, yet it is not attractive in shape or color, and as to quality it has far too much astringency to suit my taste, and is withal rather coarse. Besides this it comes into the market at the same time with the *Bartlett* and *Doyenne Boussock*, either of which is better and handsomer, and the *Boussock* makes a fine shaped tree equally as vigorous as the *d'Amplis*, while the latter is straggling in habit. For these reasons I have been disposed to think it no longer deserving of cultivation, but happening to visit the grounds of one of the best informed pomologists in New Hampshire, he told me that he had found it among the hardiest and most valuable of many varieties of pears that he had tested, and I should, therefore, judge that it is well worthy of trial in those northern parts of the country where many of the finer pears have been found tender.

Mount Vernon: I fear that the notice of this fine new pear in your last December number will mislead your readers somewhat, not that it is too highly praised as to quality, but so far as my observation goes, the time of ripening is not correctly given. In October, 1870, I visited the original tree from which the fruit had just been gathered, and saw also several younger trees with the fruit still on. Mr. Walker kindly gave me a basket of the pears, most of which ripened during the month of November, and the last one I took to the meeting of the Illinois Horticultural Society, on the 13th of December, and it was with some difficulty kept until that time. Last year, Messrs. Walker & Co. showed a fine dish at the Massachusetts Horticultural Society's exhibition of winter pears, on the 11th of November, and they were too ripe to keep any longer. This new pear, I have no doubt, is destined to become a popular one, though its peculiar flavor may not suit all tastes, but I think we must class it among the early winter rather than the late winter sorts. I wish we could keep it two months longer. The *Lawrence*, and *Beurre d'Anjou* are decidedly later keepers here.

R. M.

Salem, Mass.

New Varieties of the Clematis.

THE interest in the cultivation of the Clematis is spreading, not only in this country, but we see from our foreign horticultural exchanges that English nurserymen are actively engaged in the propagation and dissemination of new and desirable varieties of the Clematis there also. The *Florist and Pomologist* of London says that very few, indeed, of our popular favorites can boast of such an advance as has been made within the last ten years by the Clematis as a garden flower. Picturesque in habit, its chief use, up to that period, has been as a vigorous-growing climber, to form screens for shutting out unsightly objects, and except in the case of the Hawthorn-scented *C. Flammula*, properly known as the sweet-scented Virgin Bower, an old garden favorite, and *C. patens* introduced in the fourth, and *C. lanuginosa* in the sixth decade of the present century, they were but lightly esteemed.

The acquisition of these, and of *C. Fortunei* and *C. Standishii*, some ten years ago, has, however, led to a remarkable extension of the lists of varieties, and also to a wonderful improvement in their quality and adaptation to general purposes of decoration.

The enthusiasm consequent on this improvement has now reached to such a height that an extensively illustrated popular treatise on this noble flower has been projected, and will shortly be issued."

The same journal contains notices of the most recent acquisitions, possessing a well marked fragrance, which have been developed among the recent varieties of the spring flowering group, typified by *C. patens*, all of them, from their early flowering habit, forming splendid climbers for conservatory culture.

"This fine group of new scented varieties has been bred between *C. Standishii*, *C. Fortunei* and some of the best forms of *C. patens*, by Messrs. Geo. Jackman & Son, of Woking. All seedlings of this type are odoriferous, the odor varying in character and intensity in the different varieties, but mostly a combination of the violet and primrose—one or the other preponderating.

The following is a list of the new varieties recently introduced:

C. Fair Rosamond—A blush white, having a wine-red bar on each sepal, and purplish-red stamens, white only at the very base of the filaments. In this variety the violet-like odor is most strongly developed.

C. Edith Jackman—A charmingly-tinted blush white, in which the red bar is deeply colored and more clearly defined than in Fair Rosamond; also violet-scented.

C. Maiden's Blush—Blush white, with a red bar, paler than in the preceding—the coloring being mostly developed towards the base of the sepals; this is also violet-scented.

C. The Queen—A delicate *mauve lilac*, which, from the color and fullness of outline in its flowers, and its broad leaflets, is strongly suggestive of a spring blooming *lanuginosa*; in this the blossoms are distinctly primrose-scented.

C. Vesta—A pure white, having the sepals marked by a cream colored bar, very beautiful; also primrose-scented.

C. Stella—A deep *mauve*, with reddish plum-colored bar in the center of each sepal; also primrose-scented.

In the same batch of seedlings occurred a variety with large pale-green flowers, named *C. Unique*, a striking curiosity, but its flowers are scentless.

All the varieties named above are exceedingly beautiful.

Notes on Flowers for Ornament and In-door Decoration.

For Church Decoration.

WHOEVER devised the beautiful idea of decorating the altar, font or pulpit of our churches with flowers, struck a vein in the popular sentiment which responded with real hearty and enthusiastic appreciation. The story is told of Mr. Beecher, our most famous preacher, that he cannot preach with usual eloquence unless flowers are by his side and within his sight. The more beautiful the display, and the nearer to the vision, the stronger is the inspiration. We notice an admirable article on the subject of flowers for church decoration, written by James Taplin of South Amboy, N. J., for a foreign horticultural journal, and reproduce it here, as it gives many useful suggestions how to arrange bouquets, etc., gracefully:

"The flowers best adapted for the purpose are classed under the head of winter and summer flowers. They might, indeed, be called outside and in-door flowers, as after the middle of May, and thence until the end of September, there is an abundance of outside flowers and foliage suitable for the purpose; and as a large vase of flowers without foliage would be in very bad taste, I will also mention the foliage we use at each season, commencing with the winter: Of *Flowers*, it is necessary to have some good, bold flowers of decided colors, or pure white. One of the best, much in demand at Easter especially, is the old *Richardia Æthiopica*, and *Eucharis grandiflora* is prized at all times. Poinsettia and Euphorbia jacquiniæflora are good; Zygopetalum crinitum is fine; a few good stems of Tuberose are also useful in the winter, on account of their sweetness; white and red Carnations; white and red Bouvardias for smaller subjects, with Heliotrope and Stevia for scent and light graceful flowers. A few extra fine Chrysanthemums, of a clear white may be used, but other colors look common.

"*Passiflora princeps*, both flowers and shoots, are fine to hang down, with shoots of *Cissus discolor* and flowers of *Begonia Sandersii* and *B. insignis*.

"For *foliage* we use shoots of *Canna*, or leaves of *Richardia* and *Eucharis*. Shoots of *Abutilon Thompsoni* are fine, especially by candle light. Fronds of *Cibotium Barometz*, *Polypodium Aureum*, *Dicksonia Antactica*, and several varieties of *Pteris*; also the flower shoots and leaves of *Maranta Veitchii*, and the *M. Warcewiczii* are splendid; the white flowers of the latter, with good leaves on the stems, are magnificent. A good shoot of *Arundo Dowax versicolor* is also fine for this purpose; and the long flower spikes of *Cymbidium Aloifolium* are fine as drooping objects, with the *Passiflora*, etc.

"For *Summer* nothing is so useful as the Lilies and Gladioli; *Lilium longiflorum* is splendid for this purpose; also the new white Japan Lily, and an occasional flower

of *L. Auratum*, with *Canna* shoots, large hardy Fern fronds, shoots of *Humea*, and any graceful foliage which will last for the day without drooping.

"*Roses* are always desirable, and are used here at all seasons, but as they do not mix well with other flowers and foliage, they are generally used in small vases alone, or with a few other choice small flowers, often with a small bunch of violets or Lily of the Valley for the scent."

The Coleus for Table Decoration.

These have rarely been in demand for such a purpose as this, but if they are well shaped, handsomely shaded colors, we know of no objection. An enthusiastic gardener writes to the *Florist and Pomologist* encouraging the more liberal use of it:

"Where there is a demand for pot plants for the table, I have found the varieties of *Coleus* very valuable, as they have several good qualities which other plants do not possess. One is that they are easily grown, and that in a very short time, while the variety of form and color in their foliage is everything that could be desired for the purpose.

"There are three things of which the *Coleuses* are very fond, viz., *heat, moisture* and *shade*. If a hot sun is allowed to shine on them it robs them of the beautiful shades of color. In one mixed pot now before me, we have for the center, *Bausei*, surrounded by *Baroness Rothschild*, *Princess Beatrice*, *Verschaffeltii*, *Her Majesty* and *Veitchii*. Other pots are filled with other varieties. The effect of these admixtures is remarkably pleasing."



Plaster as a Special Manure for Strawberries.

AN Illinois fruit grower having been reported in the *Prairie Farmer* as raising astonishing crops of berries by the use of plaster as a fertilizer, and considerable interest being elicited thereby, he publishes the following statement, which we deem of sufficient interest to reproduce.

The place is near South Pass, Union Co., Ill., on a high, dry ridge. Soil a very finely comminuted, highly silicious loam, forty years in cultivation without manure, and pretty thoroughly worn; too poor to raise corn; not capable of raising a crop, as proved by trial, producing but a meagre show of stalks and nubbins.

Knowing it would not be worth the labor of setting it in strawberries without special care, I had it subsoiled with a Mapes subsoil plow, which follows in the furrow of a common plow and lifts the subsoil without turning it on top, the whole worked fourteen to sixteen inches deep. Plants set in spring, as soon as plowed, and a very little rotted barnyard manure added on the surface after the plants were set. More would have been better.

I sent to Chicago for land plaster, which cost, delivered at our station, 325 miles by rail, \$3.50 per bbl., and applied it to the strawberries at the rate of half a table-spoonful to a hill.

They were set in rows three-and-one-half feet apart and fifteen inches in the row. Rows four feet apart is a better distance. Kept clean with horse cultivator and hoe. What few runners appeared, cut off. As the season was dry, they were set late, and didn't make much progress. One year after they were set out, a second application of plaster was made, rather less than before. Would have also applied barnyard manure had it been obtainable. Cultivated as before, and this season, 1870, they make a splendid growth, runners well clipped; and the following year, 1871, or two years from time of planting, was rewarded with the finest yield probably ever seen in that section.

The whole quantity of land, as measured, was one acre and nine-tenths, (1 9-10.) Of this amount, about one-half an acre did not receive as good treatment as the balance, and produced comparatively less. It probably did not yield more than twenty bushels.

The whole quantity produced was 242 6-10 bushels. Of this amount, 14½ bushels were given away to friends. The balance realized, gross, \$1,128.00; net, clear of everything, \$817.00.

They were marketed in the usual way in Chicago, by consignment to a commission merchant, and not being among the earliest, took the average price, except so far as their fine size and appearance helped their sale.

Variety is Wilson's Albany. The bed was not properly cultivated last year, and a full yield is not expected this season, that might have been got from it with good attention.

At the same time plaster was applied to a piece of corn of six acres. The yield was largely increased, both in size of stalks and ears. Not being there at the time of gathering, no reliable figures, as to the amount, were obtained.

To those not familiar with the use of plaster I would say, its best effects are apparent on light soils and those much worn, and to have a continued good result, manure must also be added, or the land will be stimulated into a worse exhaustion.

As a means of renovating worn land, with the aid of clover, it is very valuable. Sow clover and stimulate its growth with plaster, sown lightly broadcast over it, and when fully grown, turn it under. This may be done late enough to make the clover re-seed the land, and when it is set anew the following spring, plaster again. There is no other way as cheap as this to renovate old land, or to improve the quality of good land.



How to Grow Gladiolus.

AN old florist writing to the *Rural Home*, in commendation of this noble flower, which is so chaste in beauty, so striking in appearance, and so popular among amateur gardeners, gives a few directions how to plant and grow them. They are quite sensible.

In the first place, gladioli like an open position, that is to say, they do not thrive

so well if surrounded by shrubberies or large trees. At the same time they should not be planted in an exposed situation. It is also essential to bear in mind that they are liable to deteriorate if grown for several years in the same bed without the soil being renewed. Therefore endeavor to change them from one bed to another every year. Some years ago I grew them for several seasons in the same bed, giving it every year a portion of new soil and removing some of the old. That plan, however entailed so much labor that I gave it up; and I incline to believe that the more choice varieties become soil-sick, that is to say, they like a change every two or three years at least. At all events, I have fewer losses among the bulbs since I have changed their quarters more frequently, than I did before. It is also quite certain that larger spikes and stouter individual blooms of a decidedly deeper color are obtained. The beds are filled up fifteen inches in depth with sound mellow loam, to which a heavy dressing of short rotten manure is added. Early in the autumn the soil is laid up rough for the winter. It is desirable to take care that a good layer of dung is put at the bottom of the bed if you want large and perfect exhibition spikes, and the depth of color and the freshness which so enchant every observer. It is no use to attempt a high state of cultivation in a soil through which the water can not percolate freely.

The main points in their culture are an open position, a free and generous soil sufficiently drained to prevent stagnant water about their roots. Another important matter is to see that the surface of the bed is properly mulched with some material that will prevent evaporation, and at the same time prevent the surface soil from becoming baked and hard by the action of the sun. For beds that are in the more dressy part of the garden there is nothing to equal the cocoa-nut fibre refuse for mulching. Sometimes I must use half-rotten dung, and at others short grass from the lawn, according as either of these materials may be at hand. When short grass is used, two or three applications are necessary in very hot summers, as it is soon withered up. It is a mistake to mulch them with manure under the supposition that the plants derive much benefit from it, because, owing to the roots being so deep, the fertilizing properties of the dung cannot reach them, even if the sun and air did not act upon it and soon dry it up. For this reason there should be something substantial in the soil for them to feed upon, without being dependent upon surface dressings or liquid manure.

With respect to neatly staking the spikes and carefully attending to them, to prevent the wind from doing the flowers harm, it is not needful to dwell at any great length; so I will abruptly close this article by stating that the cultivator must not hurry the bulbs to rest if he desires to keep them safely through the winter. As the seasons differ in their general features, no fixed time can be safely given for lifting the bulbs. The foliage should be quite yellow before they are taken up, and I would rather let them taste the cold than have them out of the ground too long. It is my candid opinion that in many cases the disease, so called, is nothing more or less than a debilitated constitution brought on by the bulbs being so long out of the ground.

Plants for a small Greenhouse.

MANY amateurs are now building new conservatories and greenhouses for the keeping of flowers and plants, but being unable to keep gardeners, often are at a loss to know what plants to obtain to make up a complete and judicious assortment. The following list, originally written by James Hogg, for the *American Agriculturist*, is suggestive, and will be conneed by this class of persons with considerable pleasure and satisfaction.

In making a selection of plants for a greenhouse which will be mainly in charge of its owner, and not under the care of a professional gardener, it is desirable to select hard-wooded plants chiefly, as they are the easiest cared for, and do not require as high a temperature to grow them well as do soft-wooded plants; yet some of these latter, such as Pelargoniums, Cinerarias, and winter-blooming bulbs, and succulent plants, as Aloes and Cactuses, are almost indispensable in any collection.

It is a common fault with inexperienced amateur cultivators to purchase any plant in the nursery collections that may strike their fancy, without any inquiry as to their facilities for or any reference to their experience or skill in cultivation. This leads to much disappointment, and at times to disgust, with plant culture. In making such purchases, strict inquiry should be made as to the mode of cultivation, and whether the necessary attention can be given to the plant, and if one is satisfied that the proper culture cannot be given, the plant should not be purchased, no matter how beautiful it may appear in the hands of a skillful gardener. In addition to this, none but strictly winter-blooming plants should be grown in the small greenhouse of an amateur, as the object in having such a luxury is not to make the greenhouse a storehouse for summer-blooming plants, but to have a continual bloom during the dreary winter.

Our selections, therefore, will have especial reference to this desideratum, and we shall divide them into separate classes. We can only briefly name the most suitable genera and species, for our space will not admit of an extended notice or description of each.

Hard-wooded Plants.

Abutilon. This is a well-known genus of easily grown plants. They grow rapidly, but take up much room in the greenhouse, and on this account should be severely pruned. They require plenty of light. In our opinion, they often displace plants of greater beauty.

Acacias are all beautiful, but some species grow to a great size. *A. decurrens* and *A. cultriformis* are two of the best.

Ardisia crenulata, desirable on account of its bright, glossy foliage and brilliant red berries.

Azaleas. All the varieties of Chinese Azaleas are elegant, but owing to their being so numerous, and new ones being brought forward every year, it is difficult to say which are the best. We have grown the following varieties with much satisfaction: *Admiration*, pure white, striped, and flamed with salmon; *Baron de Vriere*, pale rose, spotted and shaded with crimson, and edged with white; *Beauté de l'Eu-*

rope, white, spotted, and striped with rose; Criterion, salmon rose, edged with white; Empress Eugenie, bright rose, with black spots on the upper petals; Fielder's, white, pure white; Eulalie Von Geest, rose color, shading to white on the edges of the petals, with carmine spots; Iveryana, white, striped, and shaded with rose; Magniflora de Spaë, white, washed with salmon, bordered with white, and with dark spots; Narcissiflora, double white; Vittata rosea and Vittata Fortunei; these last two being early winter-blooming varieties.

Burchellia capensis—*Beaufortia decussata*—*Boucardia leiantha*, and its varieties.

Camellias. No collection is complete that does not include several varieties of this superb plant. Of the numerous varieties in the catalogues we recommend the following as being perfect in form and free bloomers, opening their flowers easily, which many varieties do not: The Double White; Candidissima, white, blooming late in the season; Fimbriata, white, with the edges of the petals fringed; Bonomi-ana, white, striped, and spotted with deep red; Lady Hume's Blush, blush white; Imbricata, deep rose, with large splashes of white; Bealii, deep, rich crimson; Myrtifolia, carmine, shading to pale rose; Saccoci nova, varying in color from pale rose to carmin, and sometimes spotted with white; Teutonia produces flowers all red or all white, or sometimes half white and half red on the same plant; Commensa, or Reine des Fleurs, vermilion red, sometimes splashed with white; Donklaarii is a single-flowered variety, with very large vase-shaped flowers of a deep crimson color, spotted with white.

Chorizema varium—*Coronilla glauca*—*Correa pulchella*—*C. speciosa*, and their hybrids.

Citrus, or Orange. The best varieties for ordinary greenhouse culture are the Myrtle-leaved, the Bergamot, and the Seville, or Bitter Orange. This has very large flowers. The Otaheite is a very pretty, dwarf-growing species. Lemons, Limes, Citrons, and Shaddocks are only suitable for large conservatories, as they take up a great deal of room. The three varieties we have named above are moderate growers and free bloomers.

Daphne odora—*D. Indica rubra*—*D. Fioniana* and *D. Cneorum*—*Dracæna ferra* and *D. indivisa*—*Diosama ericoides* and *D. ciliaris*—*Eranthemum pulchellum*—*Erica Mediterranea*—*E. arborea* and *E. persoluta*—*Eutaxia myrtifolia*.

Fuchsia—*F. serratifolia*—*F. corymbiflora* and *F. speciosa* are free winter-blooming varieties; the ordinary varieties do not bloom until April and May—*Genista ramosus* and *G. rhodaphne*—*Habrothamnus elegans* and *H. corymbosus*—*Heliotropium Peruvianum*, and its varieties—*Hoya carnosa*—*Jasminum revolutum*—*J. grandiflorum* and its double-flowered variety—*Justicia carnea*—*J. speciosa* and *J. nervosa*—*Kennedyia Marryittæ*—*K. coccinea*—*K. rubicunda*, and *K. bimaculata*—*Linum trigynum*—*Libonia floribunda*.

Myrsiphyllum asparagoides and *Mandevillea suaveolens*, both fine climbers.

Melaleuca elcans and *M. speciosa*—*Metrosideros floribunda* and *M. semperflorens*—*Pittosporum Tobira*, and the variety with variegated leaves—*Polygala myrtifolia* and *P. Dalmaisiana*—*Pimelia decussata*.

Rhododendron arboreum, and its various hybrids. Many of these latter, as *R. Russellianum*, are of much dwarfer habit than the original species. A number of new

species from the Himalayan Mountains have been introduced of late years; many of these are remarkable for their large foliage and flowers; they require a cool, moist atmosphere. *R. Falconeri*, *R. Gibsoni*, *R. niveum*, and *R. ciliatum* are very fine.

Rondeletia speciosa—*Rhyncospermum jasminoides*, a beautiful climber—*Thea viridis*, the Tea plant—*Viburnum Tinus*, the *Laurustinus*, and Monthly Roses.

Soft-wooded Plants.

Begonia fuchsoides and *B. Ingramii*.

Calceolarias. These are generally raised from seeds, obtainable in fine variety at any of our leading seed stores—and the same remark applies to *Cinerarias*.

Pelargoniums of nearly all the species. Of these the varieties are so numerous, and new ones are so rapidly being brought out, that it is better to make the selections from the catalogues from time to time. *P. Comptoniana* is a true winter-blooming species.

Pentas carnea and *P. Rosca*—*Cuphea eminens* and *C. platycentra*.

Primula Sinensis. Of this species there are now a great number of varieties, both single and double, white, and of various shades of red. All the double-flowered varieties are desirable, and of the single varieties what are known as the fringe-flowered and the fern-leaved are the finest.

Ruellia formosa—*Strelitzia regina* and *Tetratheca verticillata*—*Calla Æthiopica* and the variegated-leaved variety—and winter-blooming Carnations and Pinks.

Succulent Plants.

Aloe margaritifera—*A. retusa* and *A. variegata*—*Rochea coccinea*—*Crassula versicolor* and their varieties—*Sempervivum arachnoideum* and *S. tabulaformis*—*Cereus grandiflorus*—*C. Maynardii* and *C. speciosissimus*—*Epiphyllum crenatum*—*E. speciosum*—*E. Jenkinsonii*—*E. May-Fly*—*E. truncatum*, with its varieties, *violaceum* and *Russellianum*—*Echinocactus Eyresii*, and *E. Ottonis*.

Bulbous Plants.

Hyacinths — Narcissuses — Early Tulips — Crocuses — *Amaryllis Johnsoni* — *A. vittata* and their hybrids, and *A. undulata*.

Lachenalia, tricolor and *L. quadricolor*—*Ixia crocata*—*I. viridiflora* and *I. speciosa*—*Oxalis flabelliformis*—*O. versicolor*—*O. rosacea* and *O. speciosa*—*Ornithogalum arabicum*—*O. aureum*, and *O. thyrsoides alba*—*Sparaxis tricolor*—*Tropæolum tricolorum*—*T. Jarrattii* and *T. pentaphyllum*.. These three are delicate climbers.—*Cyclamen persicum*, and its varieties.

Terrestrial Orchids.

Bletia hyacinthina—*Cypripedium insigne*—*Calanthe veratrifolia*—*Cymbidium aloifolium*, and *C. sinense*.

Ferns.

Davallia Canariense—*Platycerium alcicorne*—*Adiantum Capillus Veneris*, and *A. cuneatum*—*Blechnum corcovadense*—*Pteris cretica albo-lineata*—*P. serrulata*, and *P. serrulata-variegata*—*Onychium Japonicum*—*Cyrtomium falcatum*—*Lastræa Sieboldii*, and *Didymochlæna pulcherrima*.



Editorial Notes.

Consolidation.

We take pleasure in making the announcement of the consolidation of the *Western Pomologist and Gardener* with the *THE HORTICULTURIST*. We have wished for some time a better opportunity to render *THE HORTICULTURIST* more acceptable to Western readers, and better adapted to Western circulation, but business matters keep the editor so confined to the East, that no remedy was possible. We are glad now to announce that Mark Miller, former editor of the *Pomologist*, will hereafter be identified with the editorial management of a special department in our pages, to be named *THE WESTERN HORTICULTURIST*. It will be exclusively Western in character, supported by Western writers, on Western topics, and will be so conducted as to render it of highest interest and value to all. The lateness of time at which the agreement of consolidation was made, prevents the appearance of this department this month; but commencing with the August number, Mr. Miller will take his position as Western editor, and commence the conduct of his department. We believe this change will be found very acceptable to all readers of both journals. The reputation of *THE HORTICULTURIST* as the oldest and best of its class, will make it a valuable friend to adhere to; its pages are always well illustrated, and the present editor may be pardoned for mentioning that it has generally been very ornamental and tasteful in appearance, as well as practical in contents. Commend this union of two good journals to friends of horticulture and gardening everywhere, and secure for it subscribers and clubs.

Grape Culture.

Again this topic comes up for discussion, and this time by fruit growers in Central New York. We should judge from the low prices of the past three years, no one need to argue that grape growing was profitable; still we do find many who think that even as low as three or five cents per pound, it will pay better than ordinary farming.

It is not to be doubted that \$100 can be made from an acre or even half an acre of fruits, but we believe the same money could be made with more certainty and less risks from ordinary farm crops. It is a curious fact that in the heart of the Delaware peach and fruit-growing district, the best and most successful men are those who have least to do with fruit, do not put their whole dependence upon it, and pay more attention to grass, oats, hay, corn, wheat, and fattening cattle. Their lands are in better condition, and will bring a better price than those of their fruit-crazy neighbors.

Beginners in fruit culture need to learn one point long since demonstrated in finances—the higher the profits aimed for, the greater the risks.

Value of Choice Fruit.

Circumstances alter cases. Fruit-growing by quantity may not pay, but choice material is never a drug. A gentleman near Canandaigua, N. Y., has 30 Rebecca grape vines, set out 8 by 8 feet, which paid last fall the net sum of \$103.35, or \$3.44½ per vine. Some enthusiastic individual has figured this up to be at the rate of \$2,239.25 per acre. We never yet knew calculations by feet or yards to hold good by the acre.

Black Cap Raspberries.

These make very little progress in the markets, and we doubt the advisability of the extension of their culture. They sold as low as five and six cents per quart last year in our markets. They are an excellent fruit for the kitchen.

How does he do it?

William Parry, of New Jersey, says that on his grounds, taking a review of the past ten years, all his raspberries—red, black, good, bad, and indifferent—have averaged prices of 23 cents per quart: the gross profit per acre \$460, and the net profits \$284. Probably the reason of this high average is the sale of fruit of new varieties propagated upon his grounds, and marketed at high prices.

During a recent trip to Riverton, N. J., we noticed large numbers of raspberry plantations ploughed up, and the people returning to some good old-fashioned crop, like oats.

A worthy Appointment.

Henry G. Stebbins, president of the Board of Central Park Commissioners, has resigned his position for the purpose of travel in Europe the coming summer. His place has been filled by the appointment of Fred. Law Olmstead, than whom we can conceive of none more worthy or fit to grace so important a public office. Mr. Olmstead has been for so long a time not only identified with the management of the Central Park, but the Prospect Park, Brooklyn, and other enterprises of similar character throughout the country, that the public have confidence in his suggestions, and know that public trusts and interests placed under his care and advice will be well protected. The appointment seems to us especially worthy of public notice and congratulation.

Strawberries.

The prices of strawberries are a little demoralizing to fruit growers this spring, beginning at but 18 to 20 cents per quart, and running down to 10 and 12 cents. These prices can hardly pay for first class beds. Dry weather has very materially reduced the quantity, and interfered with the quality.

Hot-bed Sashes.

A gardener in New Hampshire, from ten hot-bed sashes (3 by 6 feet) realized this year \$116 worth of plants and cucumbers, or \$12 per sash—a good income.

A good Yield of a Cold Grapery.

Gen. Pleasanton's "blue glass cold grapery," near Philadelphia, is 25 feet wide by 80 feet long; has a double pitch roof; one tier of glass is blue, to seven tiers white. One-half was planted in April 1st; one year old plants, first year, Sept. 1st. Growth measured 40 to 45 feet, and five months' vines were one inch thick, 12 inches above the ground. In the second year, by Sept. 1st, the estimated weight of grapes was 1200 lbs. Third year, or 2½ years from planting, the crop was about two tons of Black Hamburgs, etc., and although ten years have elapsed since planted, the crop averages yearly about the same.

The American Pomological Society.

The report of the proceedings of the American Pomological Society for 1871 has been issued, and ere this the members will doubtless have received their copies. It

is printed in large quarto form—a decided improvement upon those of previous years, being alike dignified in appearance, and more convenient in arrangement. There are about 160 pages. A handsome steel plate engraving of Mr. Wilder graces the front of the volume as its frontispiece—much the best of any we have yet seen. The first 73 pages are devoted mainly to the details of work accomplished at the Richmond meeting in 1871, and reports of committees.

The reports of State committees then follow, which contain many valuable communications, as for instance that of W. C. Flagg, which is a perfect model in its completeness of information. The report of R. W. Furnas, from Nebraska, is quite interesting, giving considerable valuable information about fruit-growing in that new country. The last 40 pages are devoted to the lists of fruit, which are divided into three new classes of territory:

1. Northern division, between 42° and 49°; 2. Central division, between 35° and 42°; 3. Southern division, between 28° and 35°.

Space is added for remarks. We consider the new plan of arrangement a great credit to the officers and the compiler.

A Large Rose Bush.

There is in San Jose, California, a remarkable climbing rose, with a trunk 30 inches in circumference a few inches above the ground, and spread entirely over one side of the house.

The Magnolia Macrophylla.

S. B. Buckley, of Austin, Texas, says that he has measured leaves 3 feet and 1 inch long, and 1 foot 4 inches broad. Its expanded flowers are from 8 to 12 inches in diameter, very fragrant.

Azalea Calenducea.

Mr. Buckley writing of this also says: "This is a shrub, growing from 4 to 6 feet in the Alleghany Mountains, from Pennsylvania to South Carolina. Pursh says that it is, without exception, the handsomest shrub in North America. When in full flower we can think of none which excels it for showy beauty. It has red, yellow and orange colored flowers from April until June—growing on the sides and in the valleys of the Mountains of the Cavalierias, where we have often seen it, and admired its glorious appearance. As this Azalea would be perfectly hardy in the open air, it ought to be generally cultivated. To have it succeed, a freestone soil, abounding in vegetable matter, would be required."

The Crimson Dwarf Celery.

Who has had experience with this variety? We observe the *Rural Alabamian* commends it highly. "A trial of this variety for several years has given the greatest satisfaction. The past hot and dry season, it grew solid and crisp, while beside it the white variety turned out stringy, hollow and spongy, unfit for use, excepting a few inner stalks. Its flavor as well as its attractive appearance, should make it a general favorite. The appearance of anything brought to the table for use, has as much to do with the enjoyment of it as the eating. Mixed in the celery grass with the white, it is a really beautiful ornament to the table; its stalks tinged and striped with light crimson. Its flavor is equal to the white, and cannot be distinguished. Unblanched it is a dull crimson, but readily blanches to a beautiful color.

Climbing Vines.

A Southern editor who has had considerable experience in climbing vines, gives his readers a list of the most choice.

LONICERAS (Honey suckles). The *Chinese* has dark foliage, and produces a continual crop of very fragrant flowers,

The *Japanese* varieties are almost similar as to color of flowers, but differ in their foliage, which is of a more lively green.

L. Japonica has several sub-varieties, differing but little from one another, and is a very rapid climber, well suited to cover a large space of trellis in a short time.

L. Halliana, is a synonym to *Japonica*.

L. Brachypode has a somewhat different foliage, being narrower and shiny, and seems to be more procumbent. Its flowers do not differ materially from *Japonica*.

L. Aurea Reticulata, is a most remarkable variety. Habit not quite as vigorous as *Japonica*, flower white, changing to yellow after being expanded some time; very fragrant. The leaves are exquisitely knitted with golden veins, giving the plant a most unique and handsome appearance.

Akebia Quinata, or *Kadsura Japonica*, a beautiful spring blooming plant; retains its foliage nearly all winter. The foliage is peculiar, being composed of fine folioles upon each petiol. Flowers are produced with the first new leaves; color brown carmine, of curious bladder shape, and quite fragrant.

Bignonia, (Trumpet vine), an almost perpetual bloomer. Its Japanese congener, *B. Grandiflora*, is one of the most gaudy and brilliant climbers we have. The flowers are of a bright orange, very large, and produced in large quantities, remain in bloom during 6 weeks. *B. Chamberlagnii*, an acclimated species from Brazil, produces in spring an immense mass of golden yellow flowers.

Loniceras.

The deciduous section comprises many handsome varieties. *L. Coccinea*, the scarlet trumpet, *Flava*, yellow, both natives of our woods. *L. Grata*, orange, more properly a peryclemmenum or with flowers divided, differing in this point from the *Loniceras*, whose flowers are tubular or trumpet shaped. *L. Belgicum*, an exquisitely fragrant kind, with pink colored flowers, but quite a climber, attaining the height of the former."

New Plants and Fruits.

Mazel's Hybrid Begonia, This is a hybrid *Begonia* obtained from M. Marzel, a French Nurseryman, from *Begonia Pearcei*, fertilized by the pollen of *B. Boliviensis*, and presents some of the characteristics of both species, with some features proper to itself. The plant is a more free flowerer than either of its parents, the flowers are usually of a vermilion color tinted with carmine, and with a dash of yellow.

New Coleus.

A new style of coleus has been produced in England and exhibited under the name of *Tryoni*, one-half the leaves being of a rich glowing crimson, and the other half of a bright golden yellow; this character will be perpetuated by propagation.

New Fruits.

Brier's Sweet Crab Apple, is said to be not only a very ornamental tree in fruit, but the fruit is luscious to eat from the hand, nearly equaling the pear. Preserved, it equals the peach both in richness and fine flavor, and wherever the peach and cultivated plums can not be grown with success, it will prove a good substitute, and of very great value. Specimens exhibited at Wisconsin State Horticultural Society, were found very excellent. For a delicate and delicious preserving apple, nothing nicer could be desired.

Clapp's No. 73 Pear is of full medium size, in general shape and form resembling the Bartlett; greenish yellow, with many dots and patches of russet, and a common check when exposed to the sun, stem stout, set angular, calyx in a compressed furrowed shallow basin, flesh fine whitish, half buttery, moderately juicy, and as a late variety, of great promise.

Clapp's No. 72 Pear, size medium to large, form oblong, obtuse pyri form, skin

rough, surface uneven, color deep rich yellow with many minute small gray or russet dots, stem short, stocky, set with a fleshy, abrupt depression, calyx with short irregular segments in a deep abrupt basin, slightly furrowed, flesh whitish, coarse, granular, half melting, juicy, half vinous, sweet and pleasant.—*Rural New Yorker*.

Pruning the Raspberry.

Canes which have once borne fruit, bear no more. Hence, these should be removed as soon as the fruiting season is over, cut off close to the ground, so that the young canes may have more room and air. At the same time due regard must be paid to the thinning out of the new canes, removing all that promise to be weakly or slender. Since we depend on the strength of the current year's growth of wood for our next year's crop, any process which will conserve the vigor and concentrate the energies of the young plant is deserving of regard. Summer pruning and pinching we deem a valuable means to this end. The young plant, when it has attained about the height of three feet, should be pinched off at the tip; this will cause the side branches to develop, which in turn should be subject to similar treatment when from six to eight inches long. This pinching should be repeated if necessary, but should not be continued too late in the fall, since it would cause a late growth of tender wood which would suffer during winter. It might be practiced safely enough till about the beginning of September, and any subsequent growth not wanted might be removed by a light spring pruning. This method we regard as much less wasteful than that of allowing the summer's growth to proceed unchecked throughout the season, and then prune back in the spring to a proper height. By this latter method the plant is allowed to waste its strength in the unnecessary production of wood which must be removed, and the growth is often long and slender; while in the former case all its energies are concentrated in the development of a stocky, well-ripened cane, far better fitted to bear its destined weight of fruit, the ensuing season. This treatment is equally applicable to the black caps, unless where it is desirable to raise new plants; then the natural extension of the cane, or portions of it, must be allowed.—*W. Saunders*.

Embellishing Small Places.

Moore's Rural New Yorker gives the following list of climbing plants for embellishing small places:

For permanent hardy plants select *Wistaria*, Chinese, blue and white; Chinese evergreen honeysuckle; Japan do.; golden-leaved Japan; red trumpet, or coral monthly, and Belgium monthly; *Clematis lanuginosa*, *C. Jackmanii*, *C. Fortunei*, and *C. viticella venosa*.

For tender climbers, *Akebia quinata*, *Lophospermum scandens*, *Maurandia Barclayana*, *Tropæolum perigrinum*, *Eccecmocarpus scabra*, *Cobea scandens*, *Nasturtion*, *Balloon Vine*, and *Thunbergia*. To the last class may be added the various species and varieties of the Morning Glory, not omitting that most delicate of all, the *Quamoclit vulgaris*, or common Cypress vine.

A Good Number.

Our readers will agree with us, we think, that this is an unusually good number of THE HORTICULTURIST. We do not pretend to be very stylish, but we do want to give useful and practical horticultural matter, avoiding theories and quarrels among writers.

Successful Gardening in New Mexico.

A gardener "who knows," says: Beets grow enormously there, sometimes to 50 pounds; onions, from one to three pounds, of a very superior quality; cauliflowers at El Paso reach 30 lbs., and sweet potatoes 15 lbs.—all by irrigation.

The Farmers' Club, N. Y.

A number of the best members connected with the Club, last fall, proposed a plan of reform which would stop axe-grinding, advance literary efficiency of its meetings, and help its reputation. After dragging along for over 6 months, the Institute seems to have laid the plan upon the shelf, and axe-grinding is prosecuted worse than ever. It used to be a place of much social enjoyment and interest, but it seems to fail to draw thither now as good a class of men as five or ten years ago, and its attractions are in no way as great, save to the agricultural reporters, who are the main stay of its success.

Profitableness of Apple Orchards in N. Y.

J. H. Babcock of Lockport, N. Y., mentions several orchards of rare productiveness and profits in Western New York. Hon. Burt. Van Horn, Newfane, New York, has 1,500 trees, 12 years planted, about half in bearing this year; 600 Baldwin apple trees produced 1,500 barrels; total crop, 2,100 barrels; 1,800 bbls. of first class sold for \$3.75 per bbl.; 300 of second class, \$2 per bbl. Total sales from 15 acres, \$7,350. The orchard of Peter D. Miller, of about ten acres, sixteen years planted, not all in full bearing, produced 2,000 barrels, sold for \$3.25 per barrel, including package. Two hundred and fifty Baldwin trees averaged between four and five barrels per tree. The orchard of W. S. Wright on the lake shore, a part young and a part old trees, produced fifteen hundred barrels, sold for \$3.50 per barrel.

A Reliable Commission Dealer.

Mr. C. W. Idell, 328 Greenwich street, New York, is the best Commission Merchant in fruits we know in this city. Five years of experience with him justify us in saying thus of him—he is square and honest and liberal. He is our largest dealer in strawberries and grapes.

The Triomphe de Jodoigne Pear.

Dr. Swazey, of La., says that as a market fruit, it lacks color, as a dessert fruit quality, but accords to it, great value for hardiness, productiveness, and large size. In a specimen orchard of a hundred varieties of pears on quince, set out in 1854, there were but two trees that outgrew the Triomphe de Jodoigne, and not a dozen that excelled it in productiveness—most of them were handsomer and nearly all of them better. This was in our garden. Out in the big orchard, where we had over five hundred varieties of the pear in bearing, the Triomphe de Jodoigne did not equal either in beauty or quality, one-fifth of them. Few excelled it in soundness, productiveness or vigor or luxuriance of growth. Our experience has been on a strong clay loam—a light sandy soil may produce a different result.

Horticultural Notes.

Grand old Tree.

In speaking of trees, we are reminded that here and there through the countries of the earth, are many trees of a grand old age, and historical character. In 1810 a noted tree, the Golyner oak, was felled near Newport, Monmouthshire. It was 28½ feet in circumference, its bark sold for £200, its timber for £670; the rings (400) encircling its trunk indicated that it had been growing 400 years. The far-famed red oak of Mount Etna was of precisely the same age. Four hundred years appears a venerable age even for a tree. Still there were many, the longevity of which was greatly in excess of it, among the most celebrated of which, were the following: Fig tree

in Damascus, 648 years; the Persian olive tree, 700; olive tree in Palestine, 719; olive tree in Asia Minor, 850; the Louisiana oak (still living), 1,000; yew trees of Fountain Abbey, 1,200; yew trees of Crowhurst, Berkshire, 1,400; sycamore of Heliopolis, 1,805; cedar of Mount Lebanon, 2,112; yew tree of Fotheringay, Scotland, 2,500; yew tree of Braburn, Kent, 3,000; sycamore of the Bosphorus, 4,020. The cypress of Taxodine, in Mexico, is said to be more than 5,000 years old. Its circumference was 117 feet 10 inches.

The Best Yet.

Samples of Brezee's Peerless Potatoes have been shown in Minneapolis, Minn., selected from a lot grown at the rate of 960 bushels per acre.

Grape Vines on Trees.

Experience has developed one sound, uniform information, viz., that grape vines are more healthy and productive when allowed to climb upward on trees, or trellises, than if confined to stakes. But at the same time it is a little at the sacrifice of quality. We believe most of the vineyards throughout the country are failures simply because the vines are pruned too close, and all parts exposed to a scorching sun. If we could train our vines upon arbors, overhead, and allow them to make and enjoy a cooling shade of their own, we doubt not, vine culture will be more steadily encouraging.

The European Sparrow.

This little pest has at last been found out. He is the most dangerous little vixen we can let loose in our fruit grounds. However valuable a caterpillar exterminator, yet according to the experience of fruit cultivators, he is certain to do more damage to grapes than his good services will ever balance. He has a sharp bill, and just as the berries are ripening, he goes round like a little drunkard, and dips it into every luscious grape he can touch.

A Handsome Beginning.

The State of Nebraska has done a very handsome thing in the appointment of a new holiday, "Arbor Day." Besides the enjoyment of the occasion, the people will accomplish a right vigorous progress in forest tree planting. It will be observed yearly upon the 10th of April. It is an agricultural festival purely, and is devoted to the planting of fruit and forest trees. The State Agricultural Society has offered a premium of \$100 to the Farmers' Society of the county which plants the largest number of trees on the 10th inst., and \$25 to the man who individually plants the most.

Grimes' Golden Apple.

This fruit seems to succeed everywhere. The latest report of it now turns up in Iowa, and Suel Foster says of it:

It was brought to this state by Mr. Weeks, some 20 or 25 years ago, a farmer who settled on the Des Moines river; and every one who knew the fruit admired it. From his orchard, Dr. Hollingsworth had quite a number of his orchard in Lee county, top grafted, and no trees in his orchard proved more profitable. Rev. Mr. Hathaway writes me from the northeast part of Missouri, that it was quite common in the orchard there, a splendid apple, and very productive, but he complains of its tendency to drop from the tree.

Greenberry Wood, moving from Belmont county, Ohio, where his father and uncle had the Grimes in their orchards, proving very profitable, so he brought it to Cedar county, Iowa, some twenty years ago, where he as a nurseryman grafted and sold a good many trees in that county, many of which are now bearing. Nurserymen in Benton county, have them in their nurseries four years old, and they are proving

sufficiently hardy there. I have the trees in my nursery and orchard, and they have proved thrifty, good growing and quite hardy.

We have had the apple at our State and County fairs, and at our winter meetings, and it is greatly admired.

It being rather soft and tender in flesh, and light lemon yellow, it will bruise easily, and requires careful handling. But it will compete with the Jonathan, Wagner, Striped Dominic Pippin, Wine Sap, W. W. Pearmain, Janeting, Ben Davis, Willow, and all our best and most popular varieties, in both *orchard and market*.

Flowers for a Relish.

The following good story is told by the *California Farmer* as having actually occurred in that neighborhood: Mrs. A. had a green Irish girl who was very anxious to please. She said one day to her, "You need not prepare any meat for supper, if Mr. A. wishes any relish he will bring something home." About tea-time Mr. A. came in bringing a quantity of the finest flowers from his mother's conservatory. The wife handed them to the girl, telling her to put them in a cool place, and she would arrange them after tea. When she went for them, she saw none, and questioned Biddy, who said, "Sure, mam! I have them all ready, and indade it was very hard to get them all fine enough," and handed the lady a dish full of roses, heliotropes, fuschias, etc., all picked into the finest bits imaginable. "What do you mean?" exclaimed Mrs. A., filled with astonishment. "Sure, mam, you said the master would bring home a relish, and I thought it was a salad you wanted." The joke was so good that the girl was forgiven, and many a laugh we had over the flower salad.

Bees and the Grapes.

George W. Campbell, of Delaware, O., in a recent letter in the *Ohio Farmer* says: "The point which I wished to establish was, whether the honey-bees were justly classed among the grape-destroying insects, or whether they simply utilized the juices of the grape by appropriating what would otherwise be lost after the skin of the berries had been broken by some other agency. I have up to this time been wholly unable to ascertain that they ever attack a sound, unbroken grape, and believe they have acquired this reputation only by reason of being sometimes found in bad company. The wasp is furnished with a powerful and efficient saw-toothed cutting apparatus, with which the grape skin could be easily abraded; but this is entirely wanting in the honey-bee, whose organs seem only suited to the suction of liquid substances. Grapes are often burst by over-crowding on the stems, especially if rainy weather succeeding a drought occurs about the time of ripening, and wasps and other insects will then be found abundant among the vines."

A Large Tree.

The largest black walnut I ever met with is one growing near Roslyn, on Long Island, about twenty miles from the city of New York. It stands on the grounds of William C. Bryant, and sprang from the seed in the year 1713, in the ground of a Quaker named Mudge. At three feet from the ground it is twenty-five feet in circumference. At the height of twelve or fifteen feet the trunk divides into several branches, each of which, by itself, would constitute a large tree, the whole forming an immense canopy, overshadowing an area 150 feet in diameter.—*Arthur Bryant, in Forest Trees.*

Pruning Young Pear Trees.

Last spring I planted fifty-two year old standard pear trees, upon very light sandy soil. Knowing that pear and apple trees succeed best on rather a heavy soil, I did not expect that my trees would make much growth the first season if ever. Of

course I attended to the planting myself, and gave each tree two good wheelbarrows full of old, well-decomposed manure, mixed with the soil for a space of three or four feet near the tree. The results have exceeded my expectations, for the trees made a most vigorous growth; some of the new shoots are at least four feet in length. I should add that I pruned the trees severely when they were planted, the branches being shortened to about one foot, which I firmly believe had as much to do with their vigorous growth last summer as the manure, careful planting and after culture. I am now pruning these trees again, not severely as last year; still every young shoot is shortened; those that are four feet long are cut back to two feet, and all others in about the same ratio, occasionally removing a branch entire, to keep the head of the tree open. If these trees were not pruned at all (as some would be authorities on fruit culture advise), they would soon become the most ungainly, ill appearing things imaginable.—*Ex.*

A Florida Nursery.

Harriet Beecher Stowe writes to the *Christian Union* some curious things about plant growing in Florida. Visiting the nursery of Col. Hardee, near Jacksonville, he showed her what had been done in four years' time. Strawberry culture was a success, and certain varieties of Northern apples and pears were raised. Col. Hardee's plan is to graft the apple and pear upon the native hawthorn, and the results are really quite wonderful, as for instance to show, a handsome cluster of red Astrachan apples, the result of the second year from the graft. A large peach orchard presented a show of peaches, some of the size of a butternut, and some of a walnut. Ripe peaches were expected to be ready about the latter part of May. Mr. Hardee is particularly in favor of cultivating fruit in partially shaded ground. Most of these growths we speak of were under the shade of large live oaks. But when he took us into the wild forest and showed us peach, orange and lemon trees set to struggle for existence on the same footing and with only the same advantages as the wild denizens of the forest, we rather demurred. Was not this pushing theory to extremes? Time will show.

Col. Hardee has two or three native seedling peaches grown in Florida, of which he speaks highly. Mrs. Thompson's Golden Free, which commences ripening in June, and continues till the 1st of August, the "Cracker Cart," very large, weighing sometimes thirteen ounces, the Cling Yellow, and the Japan, very small and sweet, ripening in May.

Besides these Mr. Hardee has experimented largely in vines, in which he gives preference to the Isabella, Hartford-Prolific and Concord.

He is also giving attention to roses and ornamental shrubbery. What makes the inception of such nurseries as Mr. Hardee's a matter of congratulation, is that they furnish to purchasers things that have been proved suited to the climate and soil of Florida. Peach trees, roses and grapes sent from the North bring here the habit of their Northern growth, which often makes them worthless. With a single stubbornness they adhered to the times and seasons to which they have been accustomed further North. We set a peach orchard of some four hundred trees, which we obtained from a nursery in Georgia. We suspect now that having a press of orders our nurseryman simply sent us a packet of trees from some Northern nursery. The consequence is that year after year, when all nature about them is bursting into leaf and blossom, when peaches of good size gem the boughs of Florida trees, our peach orchard stands sullen and leafless, nor will it start bud or blossom till the time for peaches to start in New York. The same has been our trouble with some fine varieties of roses, which we took from our Northern grounds. As yet they are hardly worth the ground they occupy, and whether they ever will do anything is a matter of doubt. Meanwhile we have only to ride a little way into the pine woods to see around many a rustic cabin a perfect blaze of crimson roses and cluster roses foam-

ing over the fences in cascades of flowers. These are Florida roses, born and bred, and this is the way they do with not one tithe of the work and care that we have expended on our poor Northern exiles. Mr. Hardee, therefore, in attempting the Pioneer nursery of Florida, is doing a good thing for every new comer, and we wish him all success.

How the Large Pears are Raised.

Mr. G. F. B. Leighton, of Norfolk, Va., has produced some of the largest pears ever grown in this country. In a late interview with this gentleman he told us that he has now in bearing six thousand trees, the most of them being Bartletts, Louise Bonne de Jersey and Seckel. The soil upon which they are grown is a stiff, blue clay overlaying sand to the depth of three or four feet. In planting out pear trees, Mr. Leighton digs a hole in the clay some two or three feet deep and sufficiently wide for the roots to ramify, and then bores a hole with a post auger through to the sand. This auger hole and a small portion of the large excavation is filled with sticks (cut brush); this forms a complete underdrain.

A soil to set the roots of the trees in, is composed of tide-washed muck, which is brackish, shell lime and the surface or alluvial earth. The trees grow with wondrous rapidity, and produce such fruit as has astonished fruit growers everywhere. First premiums have been taken far and near at the largest horticultural shows. Duchess d'Angouleme were shipped to New York last season from Mr. Leighton's orchard weighing over thirty ounces, or about two pounds, forty-eight pears on the average making a bushel. This fruit brought twelve dollars per bushel, just twenty-five cents a piece for the pears. They retailed at fifty cents each upon Broadway.

Mr. Leighton much prefers the standard to dwarfs, and plants his trees twenty-five feet apart each way. In a portion of his orchard he has dwarfs between the rows, but does not allow them to remain long enough to interfere with the full development of the standards.

Decomposed bone is used to revive the standards when they appear to be falling into a decline and works to perfection. The bones are broken up into small pieces and put into boxes or barrels with alternate layers of wood ashes, and kept moist until they are thoroughly decomposed.

Renovation of Old Pear Trees.

I have noticed in my traveling over Cape May county that on almost every farm of any dimensions are standing old, decayed and neglected pear trees, which have seen three score years or more and from present appearances have not grown an inch of wood for the last fifty years. There they stand with broken and decayed limbs and moss-covered trunks, a fit monument of utter neglect—barren and useless comparatively. Is there any remedy for this? Certainly. They are hungry and must be fed. Having consumed long ago all the elements calculated to preserve vitality, the wonder is that they still live. The same principle which applies to the man who labors in your fields applies to trees and vegetables. The man must be fed or he fails. The same with plants and trees. These infirm and decaying pear trees require manure to renovate them and stimulate a new and vigorous growth.

Having a number of these old dilapidated trees on the farm I purchased a few years since, I resolved to experiment upon them. For aught any one knows they were struggling for life in the second century of their existence. In the winter of 1869, I dug a trench eighteen inches deep and about six feet distant around the trunk of the tree, carefully preserving all the small roots or feelers. I then applied about eight hundred pounds of salt muck thrown out the year previous and well rotted barn-yard manure of equal parts, mixing it thoroughly with the earth as the hole was filled. The result was truly astonishing. The following summer they threw out shoots from almost every branch, from two to six and seven feet in length, making

nearly an entire new top and an abundance of excellent fruit. This season the growth is not as heavy. The trees were moderately pruned, all decayed limbs taken off and the body well scraped.—*Practical Farmer.*

New and Rare Plants.

New Leaf Plants for 1871.—In the ornamental-leaved section of Stove plants are numerous candidates for popular favor, and the following, amongst others, seem fairly to deserve it:—

Sphaerogyne imperialis, a Peruvian plant, which is said to be much superior to *S. latifolia*, and is at any rate a noble plant, with ample foliage. *Paulinia thalictrifolia*, a woody stove climber, from Brazil, of quite an opposite style of beauty, being slender in growth, with beautiful cut leaves, resembling the fronds of a highly divided Maidenhair. *Maranta Maselli*, which was produced at one of our summer shows, is a fine acquisition in the way of *M. illustris*, but superior to it; its ample rotundate, shining leaves have two broad silvery longitudinal bands. Of *Dracænas*, from the South Sea Islands we have four of great merit—*D. amabilis*, with green leaves, and pink and white variegation, much superior to *D. Guilfoegii*; *D. Wisemannii*, with bronzy leaves, red at the margin, and breaking out into white variegation; *D. magnifica*, remarkably free-growing, with erect, bronzy leaves, having a delicate pinkish bloom on the surface; and *D. splendens*, a dense, dwarf plant, with recurved leaves, distinct in habit, the bronzy leaves breaking out into a rich carmine-rose. *Dracæna lutescens striata*, is also a distinct and elegant plant, with bold recurved yellowish green leaves, marked by dark green lines down the center. *Nepenthes Sedeni*, is a pretty dwarf form of Pitcher plant of hybrid origin, *N. distillatoria* being one of its parents. *Dioscorea prismatica* and *D. elorado* are handsome climbing stove herbs, with satiny rich-colored foliage, the former especially beautiful, its leaves being cordiform, of a rich green shaded with purple, with ivory-white ribs, a central silvery bar, and transverse purplish veins. *Cissus albo-nitens* is another graceful stove climber. In *Alocasia Marshallii* the leaves have, beside the dark blotches, a central band of white. *Xanthosoma Lindenii*, a bold plant of the same family, has large, erect, deep green leaves of a sagittate-hastate figure with the principal ribs and veins ivory-white. Finally we have to record three fine *Dieffenbachias*—*D. imperialis*, with very large dark green leaves, spotted with yellow, and a pallid midrib; *D. Bowmannii*, a handsome Brazilian species, with pale green leaves freely blotched with deep green in a most effective way; and *D. Bausei*, of nearly the same colors, but also spotted with white. These two are particularly stocky, and are perhaps the best *Dieffenbachias* in cultivation, *D. Bausei* being, moreover, an English hybrid raised at Chiswick.

New Ferns.—Ferns have yielded little of importance during the past year, if we except the interminable and hard-named varieties of British species, which we owe to the enthusiasm of cultivators. The *Dicksonia Sellowiana*, however, a Tree Fern of Brazil, which has found its way to the Belgian gardens, will be a nice addition to our collections; *Davallia* (or *Humata*) *Tyermanii* is a charming basket Fern, from West Tropical Africa, its small deltoid tripinnate fronds and silvery-scaled rhizomes being singularly ornamental. *Elaphoglossum Herminieri*, christened the Eel Fern by Dr. Seeman, from the resemblance of its clustered glossy iridescent sterile fronds to clusters of silvery eels, is a good stove basket Fern; and *Trichomanes auriculatum* is a lovely creeping stemmed hot-housed Film Fern, with transparent green narrow bipinnatifid fronds. *Asplenium marinum Thompsoniæ* and *Polypodium vulgare cornubiense* (or *Whytei*, as it is sometimes called) may be mentioned as most distinct-looking bipinnatifid varieties of the Sea Spleenwort and common Polybody respectively, which, as is well known, are normally pinnatifid only.—*Gardner's Chronicle.*

New Bulbs.

Amongst Bulbs of 1871, the Liliums take the first place—and deservedly so, for few of our garden flowers are more beautiful than they. *L. Washingtonianum* we have already figured, and we shall hope to see blooming plants exhibited in the ensuing summer. *L. Maximowiczii tigrinum*, and *L. Roezii*, two very charming sorts—the first from Eastern Asia, the second from the Rocky Mountains,—we shall leave Mr. Baker to locate, being content to record the fact of their having found their way to European collections. The South African *Gastronema sanguineum flammeum* is a charming dwarf greenhouse bulb, with linearlanceolate leaves, and rosy-crimson flowers of great beauty. The ranks of the Gladioli, augmented a year or two since by the importation of *G. cruentus*, which is now yielding the fruits of hybridization, have been still further strengthened by the acquisition of the showy yellow-flowered species, and also of *G. Saundersii*, which is very distinct and remarkably handsome, with scarlet flowers marked with white on the lower segments, the blossoms themselves being decurved. Finally, Xiphon—the genus of the bulbous Irises, gives us two very ornamental additions, *X. filifolium*, with rich violet-purple flowers and *X. junceum*, the blossoms of which are of a golden yellow.—*Gardener's Monthly*.

Tropical Plants and Trees at Amherst.

The plant house at the Amherst, Mass., Agricultural College has been enriched by a present of 67 new plants, mostly tropical, from the Government botanical garden at Washington. There is a mahogany tree, about a foot high, in the collection, and an unknown plant has been received from Hayti. The banana plant has a large cluster of the first fruit, which will ripen in about two months, and the sago palm has its first bud, although it has been at the College four years, and was owned by President Clark some time before.

Mulching.

A correspondent of the *Cincinnati Gazette* says: For the last ten years in setting my trees I have used a compost composed of about equal parts of rotten wood, leached ashes, and light barn-yard manure. Pursuing this plan I have succeeded beyond my most sanguine expectations. Especially is this true in regard to light soils.

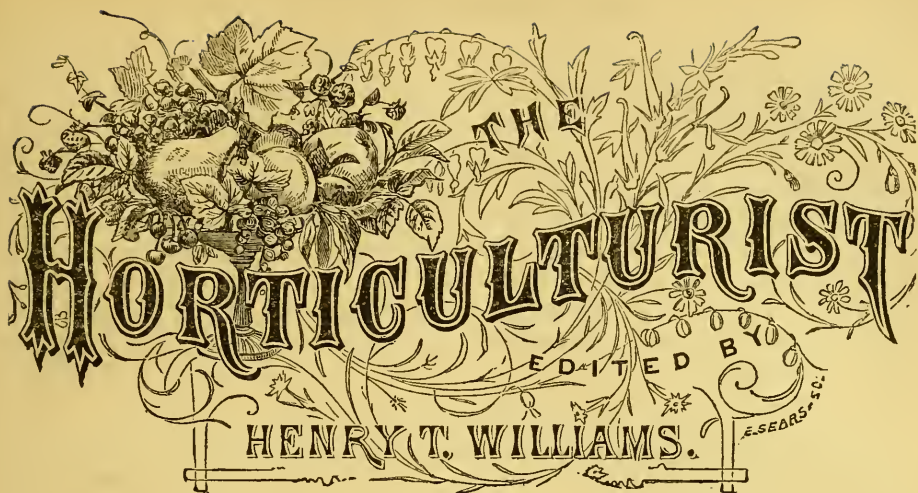
Editorial Notices.

Complimentary.

Prof. James A. Whitney, the former editor of the *American Artisan*, New York, and President of one of our most influential scientific and engineering Societies, has lately engaged in the business of Patent Agent, and Expert, at 128 Broadway, New York. His editorial position, acquaintance and research, have made him intimately familiar with the principles and details of Patent Cases, and he possesses a right degree of skilled ability for the examination of Patents, their successful negotiation, and the preparation of all needful papers for invention. Mr. Whitney's experience of over 12 years in this class of scientific labor, his early education on the farm, together with a *penchant* for scientific and mechanical pursuits, have developed into accomplishments of practical merit. Those who wish to take out Patents, or examine Patent Cases, or wish judicious information upon Patent business, will do well to consult him.



AN ORNAMENTAL GARDEN VASE.



VOL. 27.

AUGUST, 1872.

NO. 314.

The Rural Club of New York.

THE June session of the Club was held on the 18th, at Delmonico's, where an elegant dinner had been provided. Hon. Horace Greeley, President of the Club, presided, and introduced the principal speaker of the evening, Mr. S. B. Parsons, of Flushing, L. I., who read an admirable paper upon the Encouragement of the Culture of *Ornamental Plants*. Referring to an early experience in a city store, in the hardware trade, he institutes a pleasant simile between his wishes for the *Jewelry* of the shop and the *Jewelry* of the Lawn and Ornamental Grounds.

Hardware vs. Jewelry.

Sometimes I would stop at a jeweler's window and feast upon the beautiful things there assembled—the gold and silver ornaments, the diamonds and emeralds, the garnets and the topaz, the opals and the pearls. Then turning regretfully away, I would think of the trace-chains and the spades, the sledge hammers and the anvils, and resolve that if ever I went into business for myself I would sell jewelry and not hardware. When my store experience was over, and I decided to make my home and business in the country—on the spot where my fathers for two hundred years had lived and worked before me—I still recollected my comparison of jewelry and hardware. I became a grower of trees, but in this there was yet no demand for jewelry—the public taste demanded nothing more than fruit and the more common ornamental trees. My fondness for jewelry still remained, however, and as years wore on I gradually gathered together around my dwelling those fine trees and shrubs which faith in the improvement of horticultural taste had led us to introduce into the nursery. That faith has been often shaken by the slowness with which intelligent horticulturists would recognize and appreciate the most beautiful things. Men would expand their nostrils over the aroma of a fine grape or expatiate with enthu-

siasm upon the vinous flavor of a new pear, who were entirely insensible to the beauty which appeals to the eye. We once had the pleasure of receiving in our grounds a botanical club, composed of genial and charming men, at whose feet I would be willing to sit and learn the botanical knowledge which they could impart. But to these very intelligent men the beautiful form and color of the *Glyptostrobus*, or the glossy, dark richness of the *Picea Nordmanniana* brought no kindling of enthusiasm; the varied charms of some 200 varieties of conifers brought little interest. A new weed, however, which our men had vainly endeavored to extirpate, met their eyes. It was a stranger out of its native habitat, and they gathered around it with all the interest which a painter feels when he has discovered in some unexpected place a veritable Rubens or Correggio.

Need of Improvement in Tastes of Wealthy Proprietors of Estates.

A gentleman of abundant property once came in the nursery to purchase trees for a place he had been forming at an expense of some \$75,000. Nature and art had given him the groundwork; he needed only jewelry for the filling. This we urged him to take, but he was satisfied with hardware, and did not wish to waste money. For a place costing \$75,000 his bill was less than \$75. Others would come and would appreciate, but the price would frighten them. They would be charmed with a golden yew two or three feet high, with foliage shining like burnished gold, and, on receiving a response to their inquiries about price, would reply, "Why! I can buy a white pine or Norway spruce three times as large for one-third the price." Such men wanted hardware; they could not realize why a diamond an inch in diameter should cost more than a piece of granite of the same size. In their eyes a stone was a stone after all. The same with a rhododendron which had required eight to ten years to grow. They could not understand why it should be worth more than a spiræa or lilac. When the *lilium auratum* first came out we sold the few bulbs in our possession at \$80 each, but it was to foreign houses; no one in this country would pay it.

There is, however, a marked improvement manifesting itself, and the horticultural journals are rapidly educating the people to horticultural esthetics. They will come right in time, and in the meanwhile I sit on my piazza and enjoy my jewelry more than any lady enjoys her diamonds. They may sparkle in the gaslight, but my jewels charm most in the sunlight. In the morning, when the drops of dew glisten in the sun, they always charm, but the true time to see them in their beauty is an hour before sunset, when the sun just kisses the tops, and the body is toned down to the deeper shadow thrown upon the grass. They are so planted that the finest are always in my field of vision, the lighter shades being relieved against the darker.

Ornamental Standard Trees.

My eye always turns with pleasure to the Chinese Cypress, known to botanists as *Glyptostrobus Sinensis*. Of all pyramidal trees it is the most perfect in its form—straight as an arrow, compact in its habit, perfectly regular in its cone, and well defined in its outline. Its color is unequalled by that of any other tree—a light pea-green of a most refreshing tint. Its leaves are like small twisted cords, delicate as the edging of a lady's collar, and in mass giving the appearance of green feathers.

My specimen is twenty-five feet high, and I do not doubt it will reach 75 or 100 feet. Could I have but one tree near my house, that tree should be the Chinese Cypress. Although a conifer, it is deciduous, and were it possible to obtain large trees in quantity, it would be the very finest street tree known. Too much shade is becoming a great evil in the streets of American villages, and this tree forming the best possible vista, would give a light protection from the sun without dense shade. A ride of a mile through a street lined with Chinese Cypresses 50 feet high, would be an event to be remembered.

The Kentucky Coffee Tree, or *Gymnocladus Canadensis*, has many beautiful characteristics, and I always like to look upon it. Its naked, unclothed branches, in the Winter, are stiff and sturdy and strong—fitted, you think, to endure the strongest winds. It is rather late in the Spring, and its foliage then lies in separate masses, each seeming a horizontal layer by itself. Belonging to the leguminous family, it has a leaf which resembles that of the locust, with a more bluish green tint. Its shade is not dense, like that of the maples, and its whole aspect is light and airy, with a certain nobility of tone which makes our specimen, 50 feet high, a tree to be noted. Could I have but two trees on my lawn, the second should be the Kentucky Coffee Tree. Its late vegetation, and its moderately dense shade make it one of the very best trees for street planting.

Weeping Trees.

The Weeping Beech, or *Fagus sylvatica pendula*, is a tree of great beauty. Our specimen, 40 feet high, covers an area of 2,000 square feet. Unlike many weeping trees it grows upward and then throws its branches down in all sorts of fantastic shapes. Looking upon it from the outside it seems like a cathedral built by one of the old masters of architecture. Enter through its branches, which sweep the ground, you find yourself in a natural arbor, fit for all those pleasant things which young men and maidens enjoy but never mention to unappreciative ears. Look up, and you see a sturdy trunk with a bark like a rhinoceros's hide, and supporting limbs twisted and gnarled as if nature were trying to show how picturesque and beautiful so crooked a thing could be.

No tree in our grounds elicits so many expressions of wonder and admiration. I would suggest one employment for the weeping beech which would, I think, produce very striking effects. Plant 20 feet apart in an avenue 30 feet wide, trim up in the inside branches 15 or 20 feet, and allow the outside branches to sweep the ground. In this outside wall cut small gothic openings as high as a carriage window. In process of time there will be a perfect arcade, dense on the outside, picturesque on the inside, with glimpses of scenery through the gothic windows.

A near relative of the above is the cut-leaved or Fern-leaved Beech, *Fagus heterophylla*, with conical form, well-defined outline, and deeply cut, close foliage. A fine specimen of this is well known to the frequenters of Newport, and no lawn should be without it. Another indispensable relative is the Purple Beech, *Fagus purpurea*. It has a very dark foliage, and forms a fine contrast with the Chinese Cypress; planted alternately with it on an avenue, the contrast of color would produce a striking effect. For a lawn it is indispensable; the new growth is exceedingly rich, and by its darkness throws into relief the lighter foliage of other trees.

The Weeping *Sophora* makes a perfect arbor, not reaching a height very much greater than that at which it was grafted; its branches curve gently to the ground like the ribs of an umbrella, and its graceful, delicate foliage, with a locust tint, fills up the vacant spaces. Few trees are so beautiful, and no one so unique in its form. Being of small size, it is well fitted to be near a dwelling. The Weeping Larch is another picturesque tree, and its drooping habit entirely different from that of the *Sophora*. It throws out several long, spreading arms, sloping gently upward from the body, like the neck of a giraffe, and from these branches droop the lateral shoots. It is, like the *Sophora*, admirably adapted to rock-work, and its grotesque appearance makes it an object of note upon a lawn.

The Kilmarnock Weeping Willow is noted for its regular umbrella-like shape. Always growing down, it is well adapted for a small lawn, and forms a beautiful head when grafted sufficiently high.

Magnolias.

The *Magnolias* are indispensable to any place, whether small or large. The Chinese varieties are very showy in the early Spring. The flowers come out in the most abundant profusion before the leaves appear, and the foliage is good. Among these *Conspicua* is pure white, and the most admired; *Soulangiana* has a purplish base to its petals, and *Norbetiana* is a variety making as large a tree as *Conspicua*, and having a very beautiful flower, the outside of which is a deep, rich-veined crimson, and the inside a delicate, pearly white. A dwarf variety from Japan, white and fragrant, is also a fine acquisition. These two last are yet rarely for sale in the nurseries. The *Gracilis*, a variety of the old and well-known *Obovata*, is a shrub rarely reaching over four feet in height, but spreading widely over the ground. Among those blooming after the leaves are formed, the *Cordata*, a native of the United States, is a second-class tree, producing yellow flowers twice in the season. The *Macrophylla* has the largest flower and leaf of any tree known in this latitude. I have measured a single half-opened bud 14 inches long. The *Glauca*, the flowers of which are brought to the city in June and sold in the streets, is quite fragrant and a well-known favorite.

Shrubs and Vines.

The *Stuartia* is a high shrub of good leaf and form, and bearing in August, when bloom is scarce, a profusion of white flowers, with crimped petals and of great beauty. The *Kolreuteria* is a second-class tree with glossy dark green leaves, and crowned by long upright spikes of yellow flowers. Among second-class trees, or rather large shrubs, there is nothing which can surpass the *Chionanthus*, or White Fringe. Its snow-white abundant bloom is delicate and graceful beyond comparison. A very attractive companion for it is the *Rhus Cotinus*, or Purple Fringe, sometimes called Smoke-tree. The *Salisburia*, or *Gingko*, is a tree marked by peculiar fern-like leaves and upright growth.

The *Virgilia* is a native of Kentucky and Tennessee. It is of the second class, has a light, graceful foliage, and when of some age produces numerous racemes of white flowers resembling the *Wistaria*. Two weeks ago my specimen was a mass of the purest white. The beauty of the Chestnut, the Tulip Tree and the Liquidambar is well known. For street trees of denser shade than Chinese Cypress there can be

nothing better, and with them will compare favorably the Maples, Lindens and Hickory, which are too well known to need description. The Oaks can be used for the same purpose. An avenue which we planted some years since with Overcup, Willow Pin and Chestnut Oaks is now much admired.

My allotted time of fifteen minutes will scarcely allow me to describe many other beautiful trees and shrubs, some of them only recently introduced. I can only allude to the *Double Flowering Cherry*, *Alus Imperialis*—pyramidal and with delicate foliage, the Pyramidal Oak, the Dogwood—well-known; the Dwarf Horse-chestnut—a spreading and showy shrub; the Double White and Scarlet Hawthorn, with the very fragrant single Hawthorn, of which my specimen has a trunk over eight feet in circumference; the *Andromeda arborea*, a large shrub with leaves finely tinted both in Spring and Autumn; the Purple Oak, very slow in growth but dark as a copper beech; the various gold and silver edged Oaks, the Red Horse-chestnut, with showy and abundant bloom, and the well-known white and purple Lilacs, the delicate fragrance of whose young leaves is full of pleasant associations. Among shrubs the one *par excellence* that I should have, if I could only have one, is the Japan Hydrangea. Its habit and foliage are very good, and its long racemes of flowers changing from green to white and from white to pink, continue from the 1st of September until after frost. The Oakleaf Hydrangea is like the Japan, a shrub, and although not so striking for its flowers, is unsurpassed in the Autumn tints of its foliage.

The *Viburnum plicatum*, or new snowball; the Japan Quince; the Calycanthus, or sweet-scented shrub; the Ghent Azalea, with its hundred varieties; the *Deutzia*, with its snow-white flowers; the Evergreen Thorn, with its showy Autumn berries; the Forsythia, with its golden bloom; the fragrant Syringo; the numerous varieties of *Spirea*; the very graceful and showy *Tamarix*, and the various and well-known *Weigeleas* are all worthy of more detailed description than my time will allow.

Among vines and creepers, the *Bignonia* and *Wistaria* are most valuable for covering large spaces. The flowers of the latter are well known and unsurpassed. The *Akebia quinata* is always admired. The Clematis has many and very showy varieties, and the various Honeysuckles are well-known treasures in every country household.

The Destruction of Evergreens.

I have left evergreens to the last and approach them with reluctant steps, as men approach the dead. A severer battle than we have ever known has been waged with sun and frost, and although we are not conquered, we gather up our dead as men gather their friends from a human battle-field. The worst of it is that we can learn no lesson from our losses. The plants native to northern regions, like the Hemlock and the Arbor vitæ, have suffered most severely, while those which have been considered most tender have entirely escaped. Of groups of them one is unhurt and two are killed root and branch. One English yew in my grounds is entirely dead, while another in the same grounds is very little injured. One *Picea Cephalonica* and one *Picea Parsonsii* dead, and one of each in the same grounds unhurt. One-half in length of a hedge of Siberian Arbor vitæ killed, the other half fresh, green and unhurt. A hedge of evergreen thorn, four years old, with the tops killed, and at a

short distance another one year old unhurt, while the young plants in the nursery are coming out fresh and green as ever. Rhododendrons in the open ground are uninjured. They are simply made deciduous. The old leaves fall off and young shoots come out in great abundance. Thus we learn nothing from our losses, and must consider them simply accidents, which will probably not occur again, and which need not discourage us from planting as before. My theory of the cause of this injury will, I think, be verified by the facts. It must be recollected that we often have a warm season in January, and sometimes in March, succeeded by intense cold, but without any injury to plants. The last Winter was one of very steady cold, and there was no warm weather either in January, February or March. We must not then attribute to frost alone the disastrous effects. The ground has never been filled with moisture since the dry year of 1870. The rains of last Summer did not penetrate deeply, and the whole of last Winter was so free from rain that nearly all cisterns were exhausted. The soil, therefore, became as dry as dust. Now, it is well known that if the root of a plant is exposed to the open air when the cold is extreme, it will perish, but if it is covered in the earth it is safe. The moisture in the ground, freezing with the earth, forms a casing around the roots through which the cold cannot penetrate. But if the soil is perfectly dry, there is no solid encasement for the roots, and the frost passes freely in killing the delicate fibers. Such was the state of the soil last Winter, and the result seems perfectly natural. I mourn the loss of some of my finest evergreens, because they are my companions in Winter, when, without them, the whole landscape is dreary. I would like to give you some of the peculiarities of these friends of mine, but I have already occupied so much time that I will reserve it for a future occasion. In conclusion I will urge upon you, when planting upon any ground that is intended to be your home, to use hardware for the setting only of the more precious jewelry.

Views and Experiences.

The closing portion of Mr. Parsons' paper prompted some discussion and statements of experience.

Mr. Greeley said his observation had been that those evergreens died which were sheltered from the weather, while others, of the same variety, standing in more exposed situations, came out in Spring unharmed, or, at worst, only slightly affected. On his own farm this was almost invariably true. In the warm, sunny nooks the sap started in February, then came the biting frost, and death ensued. In his opinion, two-thirds of all the evergreens that were killed, were killed by the tremendous freeze in early March. Just such trees as were destroyed round about New York and on Long Island, passed unscathed through the more vigorous but more uniform Winter in New Hampshire. *Mr. Greeley* mentioned incidentally that the Red Cedar dies very much sooner in Westchester county now than it did 30 years ago, for the probable reason that the seasons are more suddenly changeable. He also remarked that in the same ground he had observed the extreme killing out of a great many Red Cedars, while not one Hemlock was touched.

Mr. Ely spoke of evergreens standing in certain portions of Connecticut, where the surface of the land is almost level. Some that were protected on the north and

west are stout and healthy now as ever they were in the world, while others, fully exposed to the storms and winds, died by the thousand. This fact would seem to indicate that sheltered situations are not always the worst for evergreens.

Charles D. Bragdon gave the opinion that a more general protection of the roots by mulching would have saved many, and he questioned whether it would not be worth while for the Club to recommend this as a preventive.

Frank D. Curtis said he lost only one evergreen on his farm in Saratoga County, N. Y., and it was standing in a thoroughly sheltered nook similar to that described by Mr. Greeley.

Mr. Quinn, speaking for the vicinage of Newark, N. J., said that up to New Year's day evergreens never looked better. In the latter part of February there was enough warm weather to start rhubarb plants and cause them to put forth leaves an inch across. Following closely after came cold, hard winds, which sealed up the ground so closely that a pick-axe was necessary to open it. This dried out the tops of evergreens, and they died for want of moisture.

Mr. George Such, South Amboy, N. J., stated that evergreens standing in heavy clay soil on the banks of Raritan River were spared, while those at a little distance in higher land and further from the shore were killed.

Strawberries for 1872.

AN interesting address was delivered at the rooms of the Farmers' Club, American Institute, New York, the 18th of June, by Dr. F. M. Hexamer, accompanied with a fine display of about thirty varieties of strawberries. The Doctor has been for many years a successful grower of strawberries, and has now on his grounds the largest list of varieties of any amateur or nurseryman near the city. If we mistake not, over 200 varieties have been grown at one time by him; hence his experience and advice are most valuable.

After the fruit had been carefully looked over by an interested audience, President Ely of the Farmers' Club called upon Dr. Hexamer for some discourse regarding the relative merits of varieties. In reply Dr. H. said that, in selecting, a person must be governed by the quality of the soil in which it is proposed to set the plant. *In light sand*, Downer's Prolific is the earliest, and is quite sure to do well. For main crop on sandy soil select Seth Boyden (which is a great improvement on the Agriculturist), and next the Green Prolific. For late fruit, Kentucky heads the list, and in very light land is a very large yielder.

For *heavy soil*, Nicanor stands foremost for early, and next to it is the Brooklyn Scarlet, which has higher flavor, and possesses peculiar charms for those who would rather have a small dish of palatable fruit than two quarts of some larger but less palatable variety.

For the *main crop* there is one kind which has stood the test of years on all soils. Of it there are more raised and sold than of the thousand other varieties combined. It is sour but firm, carries well, looks well, and is good for everything, except to eat for

the connoisseur. It is, however, the great berry, and its name of course is Wilson. Its rival is the Charles Downing, which seems to be proving itself fully as hardy, fully as prolific, and on the whole the most valuable acquisition we have gained in the past six years.

If there was but one single variety he would choose above all others, for all purposes, it would be the *Charles Downing*. It succeeds well in either sandy soils, heavy clay soils, in beds, hills, or rows, unless choked with weeds.

Late Varieties.

On *heavy soils* the European varieties do the best. *Triomphe de Gand* is much the most successful and profitable; hardy, shiny look, fine for preserves, and often sells for one dollar per quart. And there are not wanting some families who are willing to pay this price for really large, choice fruit.

The *Jucunda* is a near relation to *Triomphe de Gand*; not quite as firm. When the *Jucunda* bears a full crop the *Triomphe* does not, and *vice versa*. So it is well to have a bed of each. Cannot account for these peculiarities. The *Jucunda* does not have the glossy appearance of the *Triomphe*; but the latter will stand a carriage of three days. Of all market sorts these two are the most valuable. They will not do on sandy soils, nor on beds; but must be grown in hills.

On *sandy soils*, for a late crop, the Doctor places foremost *Seth Boyden's No. 30*. It does well also on heavy soils; is hard, a great improvement on the *Agriculturist*, better flavor, firmer, ripens much more evenly. The *Agriculturist* is soft, over-ripe, and uneven in ripening.

Green Prolific produces heavily on light soils. Sour, soft; valuable on light soils; suitable for family purposes mostly.

Very Late Varieties.

Under this class is included those which begin to ripen ten days to two weeks later than the Downer, Early Scarlet, and Wilson.

For *heavy soils* nothing is superior to the *Napoleon Third*. It keeps longer in bearing than any other variety (sometimes four weeks), and is uniformly the last of all the varieties to keep in bearing.

The berries are uniformly large, rather light in color, and too soft for market; but for home use would be among the two most desirable of all sorts. It is very hardy and prolific; has very strong stems, bearing often forty to fifty berries per plant. The appearance of the berries on the plant is very beautiful, as they seem to be piled one above the other, like a crown. Plants require two years to get well established, and will not do well on sandy locations.

On *light soils* the *Kentucky* is excellent. Does not have a high flavor; not as good or as prolific as *Boyden's No. 30*. It is not quite as late as the *Napoleon Third*, a good variety for market or home use.

The *firmness* of a berry for home use is not of as much importance as its *quality* or its productiveness.

For *high flavor* there is none superior to *Lennig's White*; has a flavor and spice similar to the pineapple; white color. For home use it is exceedingly valuable. *Black Defiance* is a very large berry, color very good, berries uniformly large;

yields well in common field cultivation; has been grown on light soils, but not largely grown through the country; to be well tested. The Doctor believes it will do well under a good variety of soils.

Seedlings.

Kissena is a seedling of Prof. Huntsman's, of Flushing, L. I.; very prolific. Twenty years ago, while the Professor was growing the *British Queen*, he conceived the idea of crossing it and the *Myatt's Eliza* with native American varieties, thus preserving the fine flavor of the one and adding to it the hardiness and the productiveness of the other. The *Kissena* is a good result of this process. The plant is as hardy as the *Triomphe de Gand*. Every little plant produces fruit. Is firm, cuts solid. The larger the better the fruit in this respect. Sweet; needs no sugar. Is an excellent dessert variety. Superior to the *White Pineapple* in shape. Is what the Professor calls an aristocratic berry, having a fine white flesh and aromatic flavor.

Champion, a seedling of Robert Turnbull, New Rochelle, N. Y., produces the largest berries of any varieties ever exhibited in New York. Wonderful in this respect. Plants are bushy. Must have the best possible cultivation. Mr. Turnbull's soil is well drained, and even underdrained. Not of very high flavor, but is very valuable for a near market.

Warrior, a new seedling, not yet named. Color not quite dark enough, soft flesh, very productive, color light, does not look very ripe.

President Wilder has not come up to expectations.

Growing Plants.

A discussion arose upon the best methods of growing and cultivating the plants. Mr. Durand, of Irvington, New York, said his were grown in three feet rows, fifteen inches apart in the row. With the *Late Prolific* distance is a necessity, as the plants spread fast and become very large. The very easiest plan to grow strawberries is, in the first year to put plants in the hills, and the second year let them run in rows. The more new plants you have the more good berries will follow. It is much easier to keep the plants clear and in perfect trim by setting out new plants every year than to clean up old beds.

Dr. Hexamer's fruit farm is at Newcastle, New York, a short distance above White Plains.

Marantas.

A NEW variety of Maranta, the *M. Veitchii*, having originated in England, and excited general admiration, it has given unusual zest and interest to the subject of the cultivation of this class of plants both for out-door decoration in Summer, and in-door culture in Winter. The *Gardener's Chronicle*, in some comments upon the subject, compares them with Begonias, as far superior amongst pictorial leaved

plants. "The Begonias are, some of them perhaps, equally striking as to color, but they are mostly wanting in the refinement of character, which is a prominent feature of the Marantas. Probably no family has filled up so rapidly as this, its ranks with distinct and beautiful forms."

A contributor to the same Journal describes not only the *Maranta Veitchii*, but others of most valued character. The list will be found to contain probably all the choicest varieties known to English florists.

"This *Maranta Veitchii* occupies, in my estimation, the first place in point of beauty, on account of the size and rich and varied coloring of its leaves, the paler portions of which are transparent, and contrast most admirably with the purple and dark green tints of the upper and lower surface. Closely allied to it, however, in aspect, and scarcely, if at all, inferior to it in beauty, comes *M. Lindeniana*, a plant of the same character, and with similar coloring in the leaves. *M. Vanden Heckeii* is a smaller-growing species of the same type, referred by some authors, as a variety, to *M. picturata*.

"Of another type, but of exquisite beauty, is the *M. rosea-pieta*, whose rounder leaves have shorter footstalks than in the foregoing, and are most charmingly tinted with darker and paler green, and marked by a rose-colored zone. *M. illustris* is a variety of this, according to Dr. Regel's opinion, but, variety or not, it is a most ornamental plant, being barred transversely with light and dark green, and zoned with pink. Under the name of *M. ornata* (but not the *ornata* of Veitch), Dr. Regel brings together sundry beautiful forms known as *albo-lineata*, *roseo-lineata*, *regalisi* and *majestica*, which are marked by transverse lines of bright color, red or white, on a green ground. Another set has green leaves with white zone, *M. virginalis* being one of the most striking, with its broad almost orbicular leaves, and white band and costa; *M. Baraquiniana* is smaller with ovate-lanceolate leaves, and broader belts of white on each side the costa.

"Still another beautiful type is represented by *M. splendida*, which has the leaves of a deep bright green, with transverse yellow grand bands, looking very much as if a pale green pinnate Fern had been painted on the *Maranta* leaf. Mr. Veitch's original *ornata* was of this type, only the Fern portrait was dark green on a pale ground. The old *M. zebrina* is another most beautiful plant, as our exhibitions sometimes testify.

"Space would, however, fail to note the many charming objects which this genus presents, and I pass on to observe that, as stove plants, they are by no means difficult to grow. What they need is liberal treatment. In Spring, when they may be divided if necessary, or taken to start on into growth, they require a brisk moist heat to be maintained about them. Later, when growth is mature, they may be used to decorate the temperate conservatory. The soil should be fibry peat and sharp silver sand, with an admixture of charcoal fragments, and, at the last potting, of a little sweet fibry loam; and the drainage must be good, as they require an abundance of water while growing freely. During Winter they should be at rest, and should have comparatively little moisture at the roots."

How to Cure Diseased Peach Trees.

BY PROF. R. C. KEDZIL.

Extract from an Address before Michigan State Pomological Society.

WHERE trees are certainly affected with the yellows, unless we preserve them by the use of remedial measures, they should be destroyed root and branch—not merely chopped down, but torn out by the roots—and even then not left to act as possible centers of contagion. Make them into fire wood, and *don't wait for the wood to season before burning it.*

As the ash elements are of prime necessity in the formation of woody fibre, give each tree a liberal dose of unleached ashes, at least a peck to each tree. If unleached ashes cannot be obtained, use four times as much leached ashes. Leached ashes are very valuable, for they still contain insoluble compounds of potash which are slowly set free for the use of the tree; also all the phosphate of lime contained in the original ash, beside carbonate of lime.

If ashes cannot be obtained, some commercial salt of potash may be employed. Crude saltpetre can be obtained at wholesale in New York for seven dollars per hundred pounds. A half pound of this dissolved in water and applied to each tree would have a very marked influence in stimulating its growth. The cheapest commercial salt of potash is the Stassfurth salt of Prussia. It contains from 23 to 30 per cent of sulphate of potash, and can be obtained in Baltimore at \$15 to \$18.50 per ton.

The woody growth of peach trees must be encouraged, even at the expense of present fruitfulness, if we hope for healthy trees. The ascertained deficiency of potash in the ashes of diseased trees would point to this element as an important means of securing healthy growth. If the trees show symptoms of the yellows, the treatment of drenching the roots by boiling water is easily applied, and if the treatment is not sufficient the dose may be frequently repeated. It is done by drawing away the soil from the roots of the tree, and pouring into the hole a pail of boiling water. The combined treatment used in Benton Harbor of ashes and boiling water should be freely tried.

The practice of some nurserymen, who are ambitious to have large and fine looking trees to tempt the thoughtless purchaser, of stimulating the growth in the nursery rows by liberal use of stimulating manures, should be discouraged. Stable manure in the unfermented state is so freely used that the trees are forced and pushed forward as if by hot-house culture. When such trees are transplanted to the orchard, they are unhealthy, the growth is checked from want of the stimulating food to which they have been accustomed, and they soon die, or fall a prey to the yellows.

Of course no pomologist needs to be warned to avoid using buds from diseased trees.

Too much importance cannot be attached to the proper selection of peach pits to form the nursery stock. I heartily endorse the advice so often given to *select pits from districts known to be free from the yellows.* Nurserymen are too careless or

indifferent in this point, or else are unable to obtain a sufficient supply from the healthy districts. When going through the canning house of the Excelsior Packing Company, in Benton Harbor, where large quantities of peaches are canned, I saw many baskets of peach pits, and was told they were already sold to nurserymen, and that it was difficult to fill all the orders for peach pits. Yet very many of these peach pits were unquestionably from diseased peaches, and all of these were from trees in which the fruit-forming tendency was excessively developed at the expense of the constitutional vigor of the tree, and *not one of these pits was fit for use as nursery stock*. The nursery stock, like Cæsar's wife, "should be above suspicion." It is very important that peach pits as nursery stocks should be obtained from pits free from the yellows, but this is not enough. No pits should be used from trees where the wood-forming vigor is so far checked that *the leaves have a yellow cast*. Many seedling varieties growing on the clay lands of the central portion of our State are almost worthless for fruit, but they have a wonderful vigor of growth, and *their leaves are dark green until killed by the frost*. Let such trees be cultivated for their pits alone; let these be used for nursery stocks and *let the bud be inserted at the height at which the top should begin to form, so that the body of the tree shall be formed entirely of this vigorous wood*, and I think we may soon bid farewell to the yellows in peaches.

How to Erect and Manage Cold Graperies. •

EUROPEAN varieties of grapes have never yet succeeded with us in the open air, and yet it is a generally admitted fact that they are in every sense superior to ours, not only in size, but in appearance and quality as a dessert fruit. Under glass they are as successful here as any could wish, and the growing taste of the people for graperies and conservatories will justify some suggestions concerning their arrangement. Dr. Swazey, of the *Southern Horticulturist*, recommends as the best dimensions of a cold grapery to be 30 feet long, 8 feet wide, 8 feet high at back, and 2 in front. A house of this size, if devoted wholly to grapes, will hold 20 vines, 10 on the rafters and 10 on the wall. Next he considers the *grape border*, how to prepare it.

The best foundation for a grape border is a good friable garden soil, such as will produce first rate vegetables. If we have this already where the border is to be made, the task before us is a light one, for in such case we have only to secure perfect drainage to the depth of eighteen inches or two feet, to add a little special compost and to thoroughly pulverize the soil a foot or so deep to give us a healthy and permanent home for our grape roots—not a mucky, putrescent bed that will send up our canes to the top of the rafters by mid-summer and give us a magnificent 20-pound-to-the-vine crop the second season after planting, but a border that will insure a moderate, well-ripened growth of cane and that will furnish us with steady and permanently increasing crops of delicious, high flavored and long keeping grapes, not for exhibition, but for use.

Few plants vary more in the composition of wood and fruit than the grape. While

nitrogenous manures are exceedingly useful in the early stages of vine growth, they are rather detrimental than otherwise after the plant has become fully established. And for this reason—the *wood* of the grape contains a large per cent. of azote, more than eight times as much as of potash; the fruit, on the contrary, contains, in a given quantity, nearly twice as much potash as nitrogen—the latter being so insignificant in quantity that Gasparin only found 3-10 of one pound in a hundred pounds of grapes. It is evident, therefore, that in the composition of our border we must consult the demands of the vine in respect to both wood and fruit—supplying the nitrogenous elements in sufficient quantities to keep up a vigorous and permanent growth of wood and the alkaline elements demanded by the fruit.

A compost of leaf mould, stable manure, superphosphate of lime or ground bones, wood ashes and gypsum will fulfill all the required conditions—and a compost something like this should compose at least one-third of every grape border where the soil is naturally poor or has been exhausted by previous cropping.

The border should not only extend over the whole inside of the house, but four feet outside of both front and back walls. This for the size of the house we have named would give us a border 16 by 31 feet. Over this area, therefore, our compost should be evenly spread to the depth of two inches, and deeply and finely spaded in. After this, another two inches should be thoroughly incorporated with the surface by raking. The border will thus be some six inches above the surrounding level, and this, with care in giving it a slight descent from the walls of the outside will generally be sufficient to guard against undue moisture about the roots of the vines.

In this border the vines are to be planted at three feet distances along the *inside* of the back wall and *front* wall, beginning, of course, one and a half feet from the end in both cases; the rafters having been so arranged as to have the vines directly beneath them. Up the point and along the rafters a No. 12 galvanized wire is to be run on proper supports ten or twelve inches from the rafter and beneath them, and to these the vines are to be trained in single canes. On the back wall the vines may be trained directly to the wall by means of narrow strips of stout cloth or leather.

Of the twenty vines ten should be the old and reliable Black Hamburg, and after that one each of Bowood Muscat, Golden Hamburg, Champion Hamburg, Golden Champion, Muscat Hamburg, Foster's Seedling, Buckland Sweetwater, Royal Muscadine (true), Black St. Peters and Lady Downs. Or, if preferred, some of these may be substituted by two or three of the Frontignan varieties.

How to Grow Tree Mignonette for Winter Decoration.

THE *Florist* and *Pomologist*, London, speaks of the Tree Mignonette as a special favorite in England as a Winter decorative plant for baskets in the house or conservatory, on account of its graceful appearance when grown in a tree-like form, on stems, two feet high, with head from two to three feet through, but also on account of the fragrance it diffuses around. Indeed, the plants are the admiration of all who see them. To have plants in bloom by November, the seed should be sown by the middle of March.

We use three-inch pots thoroughly cleaned and well drained, with a thin layer of moss over the crocks. The soil should be rather free, and put through a half-inch sieve. The pots are nearly filled, the soil gently pressed down, and a few seeds placed in the center of each, covering them over with the soil to about the thickness of the seeds. We give a good watering, and place the pots near the glass, in a temperature of sixty degrees; if the surface is shaded until the plants make their appearance, so much the better. At this stage of their existence, the young seedlings don't relish being often watered.

As soon as the plants are large enough to show which is the strongest, we take all the others away, and put a small stick to the one left, and to this it is tied as it grows, in order to keep it from being broken at the neck. When about six inches high it will require another shift into a six-inch pot, observing the same care as before in regard to drainage at this and all future pottings. The soil, moreover, should be only chopped; and leaf-mould, a good sprinkling of sand and a little soot should be well intermixed through the moss. A little of the soot sprinkled over the moss on the top of the drainage, will be beneficial in keeping worms from getting into the pots during summer.

We find eleven-inch pots large enough for making fine heads. The leading stem should not be stopped until it has reached the height required, and then the six top side shoots will be found to make a fine head if properly attended to, in regard to pinching and tying down to a small trellis made of wood, of the shape of an umbrella. In pinching out the side shoots, a pair of grape scissors will be found best, as they do not injure the stem leaves, which must be taken great care of all through. By growing in a temperature of sixty degrees near the glass, giving manure—water twice a week after they have filled the last pot with roots, and daily syringing overhead—they will by the month of November amply repay all the labor bestowed upon them.

The same treatment applies to pyramids, only one of the side shoots must be pinched away. We have at present (December 28th) plants which, when staked, will be three feet high and as much through.

A Chat about Ferns.

ONE of the members of the Oneida community has been entertaining the readers of the *Circular* with pleasant gossip about American woodland and meadow ferns. We think it the best article on the subject we ever read, many passages indicating real genuine taste for plants, and pleasant descriptive powers.

The best-known fern, and I may say the best hated one (for the farmers teach their boys to fight it), is the Hog-Brake, or Bracken (*Pteris aquilina*), as it is more gently named. It thrives best along the edges of hemlock woods and sandy pastures, where it is too strong for the grass. The growth of it is sometimes enormous, covering acres of land, and in the fall dying down and clothing the earth with a thick brown mulch. In the spring I have seen a farmer set fire to these dead ferns and make a

sort of black-and-brown patch-work, of his pastures ; but in a few days, and before the grass could do anything, the ground would bristle with green and woolly brakes, each particular stem of which would seem to be shaking its fist at the desperate man. The stems would unroll their branches, the branches would unfold their leaves, and in a short time the pasture would be covered as by a forest of liliputian trees. Into these pigmy woods we boys used to crawl on idle days. There with our knives we made clearings as if we were men in new countries, and from the branching stems we set up crotches and lug poles to support imaginary kettles, in which we made imaginary sugar. When we became old enough to join in the farm-work and be taught that fancy is an idle thing, we stopped making castles among the brakes and came to hate them cordially. And though I have become wiser since, and learned that fancy has a right to live in the family with love and faith and sound judgment, I still look on this fern as the least interesting of its kind : it is the big coarse man of your family, who always takes his own and more, too, if he can.

If the Bracken is sometimes a pest, the Maidenhair (*Adiantum pedatum*) is always a pet and glory. It confines itself to the woods and thickets, never trespassing on the domain of the farmer. It courts obscurity ; it loves to be eclipsed ; and this is something more than you can say of everybody. Springing up with the snowy orchids and Canadian violets, it goes on thriving after the woods have become too dark for the early flowers ; its black stem, shining like polished ebony, seems to take in color from the surrounding gloom, while it forks and branches to hold up its canopy of one-sided leaves. It is so like the ugly Bracken in some respects, and yet so unlike in its graceful delicacy. It is perhaps the most pleasing of all the ferns, not by its rarity, for it is as wide-spread as any, but by reason of its intrinsic beauty.

Another very common fern, though not so well recognized as the Bracken and Maidenhair, is the *Dicsonia punctilobula*, or Lady Brake, as we call it in Vermont. It is this plant which makes the old sugar-orchards so redolent and ferny. Sometimes a high wind upturns one of the maples there. You have a long gray trunk lying prone ; at one end of it is a great crush of broken limbs ; at the other is a pool of water and a wall of earth and stones and interlacing roots, one of which, stretching up into the air, seems an arm up-flung in some great agony. The farmer carries off the stem and branches, and leaves the rest to rot away and crumble down until there is nothing left but a low mound of earth. The Lady Brake then comes and plants this knoll with her pale green fronds, every one of which is fashioned so elaborately, and is so pleasing in certain frames of mind, that you are ready to aver that fern leaves are more nourishing than any boiled vegetable.

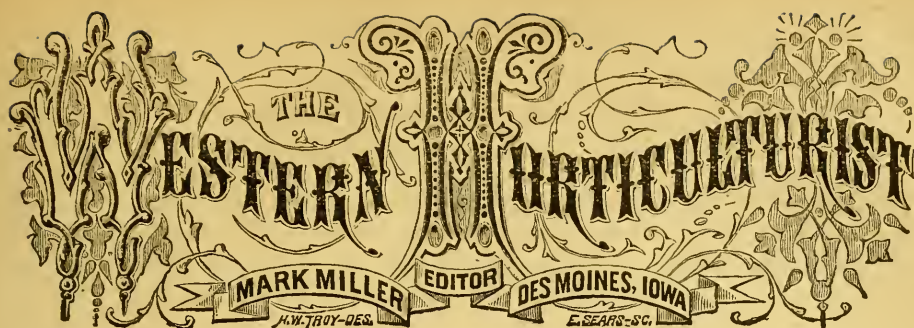
When the fern-hunter perceives there is a characteristic fern for every distinctive place, he feels as if he had stolen one of nature's secrets ; that he is meddling with one of her pets, and that it behooves him to be reverent and tender. I believe there was triumph in heaven when God designed the primeval fern and resolved to adapt it to every condition of rock and soil.

The Cinnamon-fern (*Osmunda cinnamomea*) and Flowering fern (*O. regalis*) are swamp-ferns. They grow in large tufts from thick root-stalks which stand up above the surface of the bog. A plant-hunter wandering in the pineries will sometimes find himself intercepted by one of these fern-swamps. Upbearing a canopy of peren-

nial green, the tall pines seem to be looking down on a bit of the tropics; pine and palm he thinks have come together. It would be a coarse act to wade in among those ferns, trampling down woolly fronds and smooth green fronds, as you sprung from tussock to tussock to keep from sinking in the black and pasty mud.

The Sensitive fern (*Onoclea sensibilis*) is a river fern. Although it grows in a great variety of moist places, it seems most at home on those low and shady tongues of land which are flowed a long time before the stream goes over its banks and compels the muskrats to go sculling off, with their noses at the apex of a long triangular ripple. It is so named from its shrinking from your touch as from something hot and wilting. The fronds come up singly and remote from one another, as if they respected each other's privacy and hour for dealing with the invisible. The fertile frond is so given over to the work of propagation it quite loses its leaf-like character; its pinnæ and pinnules are contracted and rolled backward until the frond looks like a stem of berries. The doctrine of the morphologist, that the stamens, petals, spores and fruit, are only so many leaves which have been set aside and transformed to carry on the work of propagation, gets some new strength from our study of the ferns. In the case of the Lady Brake and others, we have a few small fruit-dots on the back of the frond. In the Bracken and Maidenhair the edges of the pinnæ begin to be folded back a little. In some of the Flowering Ferns we observe that a few pinnæ in the middle of the frond have quite lost their foliaceous character. Finally, in the Sensitive Fern we have a frond that is completely transformed.

The earth was long a-making for the Ostrich Fern. The rills ran into the brooks; and the brooks into the rivers, which o'er passed their banks once or twice a year and left a thin film of sediment. After thousands, perhaps millions of such deposits, the river can make no more additions to its adjoining flats except in times of great strength and fullness. Now is the time, and here is the place, for the Ostrich Fern to plant itself. This is the most stately of all our northern ferns. Springing from the rich alluvium its fronds stand shoulder high, like great bunches of plumes. If you see one of these tufts you think of a vase, its fronds bend so gracefully outward from an opening in the center. If you see a number of them together you think of little Gothic shrines, of nave and transept and painted window. The aspect of this fern is as striking as anything in all other flora. It pays you to creep into one of these fern-thickets, and thence into a new world. I think if I had found a love that did not make all things new, I would not take my bride and rush off in the honeymoon, to gather dust and face railway conductors and hackmen and porters and hotelmen. I would go to the meadows on a summer day, and with the creek placid here and rippling there, on one side of me; with a corn-field rank in its maize odors and pumpkin-vines on the other, I would look underneath the drooping elms and the scrawny sycamores for a fern-copse; and when I had found it I would go in on hand and knee. With the gothic aisles opening on every side of us, with a pale-green light filtering itself through the strange leaves, we should not find it hard to believe that our world had become new, and that we were the new Adam and the new Eve.



Salutatory.

IN the consolidation of the *Western Pomologist & Gardener* with the *HORTICULTURIST*, as previously announced, and which involves our editorial connection with this journal, it may be expected that we will follow a long established custom, and with a low bow and formal "salutatory," introduce ourselves to its patrons. The reasons for this consolidation of interests and editorial labors, the friends and patrons of the respective journal will care little about. We shall not, therefore, burden the reader with their rehearsal. We trust that the union of the two papers, devoted to one great interest—of which, as a profession, it has been well said: "is a boundless source of rational amusement, wealth and happiness"—will meet with a cordial reception at the hands of the patrons of both journals.

There is a widespread spirit of improvement abroad with reference to Horticulture, and not a few who have engaged in it, have already learned to their great advantage that it is certainly worthy of the most profound investigation—that improvements may be made in this art as well as in others, and that the discoveries of the age, and the developments of science, are furnishing agencies and means for its promotion. And we are pleased to note, that in these days of progress, when, in every department of the arts and sciences, so many new discoveries are being made, and so great advancement is gained, Horticulture is not found lagging. It has, within a few years past, made rapid strides, and is now known and respected as a profession and science in the truest sense of the term; and as such, we may claim that its practical application is inseparably connected with some of the greatest necessities and luxuries of life. But what has already been accomplished, is as nothing to that which remains to be done. This great work must be effected mainly through the dissemination of reliable intelligence, and for this dissemination we must look to the horticultural press. As to our agency, or whatever we may be able to do in our present field of labor in furtherance of this noble work, we have little to promise; we will leave it with those who may follow us from month to month through the pages of this journal to judge for themselves of our stewardship—whether we are a faithful servant—whether, in our labors for the advancement of horticultural science, we contribute anything to carry it onward and upward. We will say, however, that we shall endeavor, to the best of our ability, to aid in making the *HORTICULTURIST* a faithful exponent of the great interest which its name imparts,

MARK MILLER.

Cultivation of the Peach.

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

THERE are several circumstances, which combine to discourage many from planting peach orchards; among these discouragements are: first, the liability of the fruit to be winter-killed in the bud; secondly, the liability to be killed by late spring frosts while in bloom; and thirdly, the short lifetime of the tree. We propose now to submit a few thoughts upon each of the above points:

In regions of country where the mercury does not fall lower than sixteen degrees below zero, the first evil seldom occurs, especially if the young wood of the tree has been well ripened the preceding fall. To facilitate the maturity of the wood, the trees should be planted on stiff clay, or thin, sandy soils. Added to these conditions of soil, if the plantation is on a location considerably elevated above the surrounding country, the protection thus given is greatly increased. The great object had in view to protect against winter-killing in the bud, is to have early and well ripened wood, which is largely influenced by the soils and elevations above referred to. Indeed, we have known locations of this kind where the peach crop was not a failure once in twenty or thirty years. The top of Muldrough's Hill, near the mouth of Salt River, in Kentucky, is one of these safe locations, so far as atmospheric influences are concerned.

The second difficulty is, the danger arising from late spring frosts, while the trees are in bloom. Safety in this condition is very much increased by the same conditions as protect from winter-killing in the bud. Here altitude plays a very conspicuous part; not the actual altitude above the level of the sea, but the relative altitude in respect to the surrounding country. Altitude, however great, affords but little protection, unless it is, at least, partly surrounded by contiguous low lands. It is a well known fact, that frost is much more destructive in low valleys, than on the adjoining hills; and this destruction is in proportion to the relative altitude of the two locations. It is also equally well established, that frost does much more damage of still nights, in the spring, than when there is a breeze or current of wind during the night. The wind which, during one of those threatening days in the spring, is from the W. N. W. or north, brings with it a large amount of cold air, which being heavier than the air near the earth, does, by its weight settle, during a still night, to the lowest point, thus pressing the warm air out of the valley along the sides of the hills to the top, producing a current of warm air which protects, by its warmth, those things which are at a certain elevation above the valley. The greater this elevation, the greater the protection, and the lower the valley, the greater the destruction.

As an illustration of the truth of this principle, persons passing through these valleys in one of those still nights, after a cold, windy day, will, as he descends the valley at a certain line, sensibly feel the cold air; and the lower he gets the colder he feels. When he commences to ascend the hill on the opposite side, he at a certain line of elevation, sensibly feels the warm air, which as he ascends becomes more and more pleasant. We have known this lake of cold air so distinctly marked as to kill all the fruit on a tree up to a certain horizontal line. Above this line, all was

saved. Hence the importance of suitable locations for protection of the peach crop from the destruction of late spring frosts. The third and last difficulty here presented, is the transient life of the tree.

The life of a peach tree is very sensibly affected by the kind of soil in which it is grown, coupled also with its elevation. A tree planted in deep alluvial soil, and in a low situation, as upon a river bottom, will usually, in from ten to fifteen years, grow itself to death; but on a high location, and in what is commonly called *thin* land, it will, if no accident befall it, live perhaps twice as long as in rich land. Yet the peach tree is, at best, one of but short duration, especially when compared with the apple or pear tree. Nevertheless, this objection to planting peach trees can be greatly modified by pursuing the following course: When the trees, either upon rich or poor land, begin to show signs of decay—if they have branched near the ground, as they should do, several of the branches should, in October, be sawed off within two feet of the ground; the stumps of these sawed branches will, the next season, throw out sprouts, which will give to the tree quite a handsome young top. At the end of this season, the balance of the old top should be taken off, which will throw out sprouts as those before. Thus in two years you have a tree with a beautiful and healthy young top, bearing fruit even superior to the first crops. When these tops thus formed begin to decay, cut the whole tree off even with the ground; from this stump, numerous young sprouts will grow the next season; of these sprouts save one, two or three, which in due time can be budded, and thus another fresh tree produced, little, if any, inferior to the tree when first planted. By this kind of management can the life of a peach tree be prolonged to the third or fourth generation—say from thirty to forty years. If the above suggestions be strictly followed between the parallels of thirty-six and forty-one degrees of north latitude, perhaps farther north, peach growing can be made a tolerably certain crop, which during its continuance pays perhaps better than any other.

Upon the question of cultivating peach trees, we would say, as in the cultivation of the pear tree—give clean culture, always; and to prevent a too luxuriant growth, have them on ground that will *require* cultivation. In this way you can, to a very considerable extent, manage your trees so as to produce a healthy and reasonable growth of well ripened young wood, which is indispensable to success.

P. S.—A very important question here arises, and that is this: If frosts are much more destructive during still nights than when there is wind, how is it that belts of timber as *wind-brakes* are said to protect fruit orchards. It cannot be as a protection of the fruit against frost, but must be simply a protection of the trees against the drying influences of the wintry blasts. It is said that an obstruction of two feet high will still the current of the wind for twenty feet beyond. It follows, therefore, that a belt forty feet high, will still the wind for four hundred feet beyond. Hence, a timber belt, as a protection against frost, would seem to increase the danger, rather than to prevent it, in consequence of the eddy which it causes beyond the obstruction thus made. We should like to have this subject ventilated,

Progress of Apple Culture in Minnesota.

BY PETER M. GIDEON, EXCELSIOR, MINN.

THE proper time for the following report was some weeks past, but the condition of my eyes would not admit of it, and with difficulty do now. Each fall and spring for years past I have given our success and prospects in fruit culture, and am happy to again announce the prospects still brightening, especially in the profusion of the varieties of the apple that bids fair to succeed here, showing that at no very distant day we may all grow an abundance of the very best in succession the year round.

Low heads and thorough mulching, the year round, is my theme, thereby avoiding sun-scald, drouth and frost; and thus protected, find full one-half of all old named varieties of the apple to succeed with us. The past winter told as hard on all tender varieties as any previous winter had done, so that what stood the past winter bids fair to succeed, and in our estimation quite safe to plant. I don't generally make mention of tender varieties, but, the Grimes' Golden, just now taking a run in the West, I will just say, has proved tender here on all soils and locations.

In my list of old named varieties, I give only the best of the season of its eating, as no one wants an inferior apple when they can get a better one of same season. I give as nearly as possible in succession of ripening, from August to August again, all hardy, with our mode of culture, viz.: Early Strawberry, Early Pennock, Sops of Wine, Duchess, Fall Stripe, Jersey Sweet, St. Lawrence, Alexander, Fameuse, Wealthy, Blue Pearmain, Westfield, Seek-no-further, King, Prices' Winter Sweet, Wagoner, Winter Winesap, Northern Spy, Ben Davis, Newtown Pippin, Golden Russet and Pewaukee.

The following lists are of late origin, hardy in tree and many fine in fruit, but the fruit of the majority I have not seen. Will give references, that those wanting can apply at once to the proper sources, as I am not a nurseryman nor dealer in trees, nor in any one's employ. I write all articles free, and don't wish to do nurserymen's correspondence, other than inquiry through the press. Those of Central Minnesota origin, and known to nurserymen here-a-bouts are: General Grant, Aikens' Winter, Pioneer, Molly, Newton, Woodward's Winter, Woodward's No. 6, Hawkins Chief, Minnesota Prince and Cordell. Those of O. F. Brand, Faribault, Minnesota, are: De Never, Lamertine, Fondulac Beauty, Empire and Wisconsin.

Those from S. Bates & Son, Stockton, Minnesota, are: Medo, Winona Chief, White Winter Sweet, Bouck's Red Winter, Becker's Large Red, Lucy, First Settler, Star of the West and Minnesota. Those from G. P. Pepper, Pewaukee, Wisconsin, are: Early Stickney, Seedling Pearmain, Allen Russet, Porter's Best, Walbridge, Felix, Wiley, Pepper's Russet, Pepper's No. 25.

Those from J. C. Plumb, Milton, Wisconsin, are: Snider, Hulls, Litch, Cable Gillflower and Plumb's Choice Crab.

Those from J. P. Buckner, Waukesha, Wisconsin, not a nurseryman, German and Golden. Those from M. D. Lapham, Paris, N. Y., not a nurseryman, are: Sallie and Wick's Everlasting. Those from Lukens Pierce, Coatesville, Penn., are: Klap-rath, Krauser, Marks, Jeffries, Early Ripe and Hultenstein; and lastly, and extra

in tree and fruit, is the apple we call Strachan, from a gardener and florist, Rockford, Illinois.

The past spring I set about one hundred and fifty varieties of the apple, not heretofore tested by me, the best from all parts of the United States, and also about one hundred varieties of the pear, on which I will report in future years. The pear trees, generally, came through the past winter in good condition, but dropped their fruit badly, as did some varieties of the apple, viz.: Blue Pearmain and three large seedling trees not named. I can give no cause for the dropping; generally the apples hold well. As yet, the blight is not as bad as last year, chiefly confined this season to the Hyslops and Transcendents. Cherry crop almost a failure. Grapes splendid, and all small fruits in profusion.

EDITOR HORTICULTURIST:—I would like to inquire the cause of apple trees appearing in so dilapidated a condition this spring; some of my trees have not, as yet, put out their full quota of leaves, like as healthy trees should. One or two varieties are all right—the Perry Russett is vigorous, and is bearing well; ditto, of Tallman's Sweet. We had last summer a sun-scald on apple trees, which destroyed the young wood as effectually as fire could, and the dry limbs now stand as monuments of fire, dead and dry. Of apples there will be only a moderate crop. Cherries are in a worse predicament—a few scattering ones here and there show us how they *ought* to look. Plums are none at all. The trees bloomed profusely, but no plums set. Strawberries are almost a failure, vines are luxuriant but no fruit. Raspberries were badly winter killed, as the phrase goes. About one-half of the last years' canes died out, but still the promises for a fair crop is good. All varieties fared alike—the upper parts of the canes being killed and the lower branches fruiting. But grapes are coming on finely; the fruit is forming nicely, and of all of mine that were protected during the winter, I can see no difference. The crop bids fair to be large. We have a new pest on the leaves in the shape of a brown or black slug, that eats the leaf all out, leaving the ribs of the leaf all bare. But I found, by experiment, that Paris Green and flour sifted on the leaves while damp, in proportion of one to twenty-five, effectually destroyed their appetite for green fodder. The rose slug served in the same way will produce like results. The gooseberry worm can be destroyed in the same manner. Last year my bushes at this time were simply bare poles, are now luxuriant in leaves, and the worms have concluded to leave them alone. I have some old Clinton grape vines on an arbor that appeared to be dead for a long time, but since our last heavy rains they have pushed their buds finely. Evergreens have suffered badly the past season, and hundreds have died outright, not as some suppose, *winter killed*, but killed from the lack of moisture in the ground. As soon as moisture reached the roots of the Clinton the vines grew finely, but evergreens not being so hardy, succumbed to a climatic effect that was in existence before the winter set in, which winter aggravated and of course gets the blame. Other little items I will note as they may occur.

DR. GEO. WARNE.

Independence, Iowa, June 24, 1872.

Pear Blight—Wier and Stayman.

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

IN our article in the December number of the *Pomologist and Gardener*, we stated that the fungi are *said* not to attack trees during a very *dry* summer. In this, Mr. Wier says, we are *right*, and yet he says, "blight does attack trees in the *driest* summer." We confess we cannot understand this kind of reasoning. At Richmond, in September last, at the meeting of the American Pomological Society, Mr. Wier offered a resolution, that we know nothing about blight. He now seems to be fully master of the subject. Verily, he has learned considerably in a very short time.

Dr. Stayman says, "he feels it a duty he owes to his readers to reply to our theories." We regret that the doctor feels such an enormous burden resting upon his shoulders, as that of keeping the horticultural literature of the country purged of such delusive errors. In this connection, we would remark to our readers, that from the chronic habit the doctor has of shifting his position, frequently think it not unlikely he, within a year from now, will be advocating the theories he is now opposing.

The doctor asks, why, if freezing is the cause of blight, young trees do not blight as well as older ones? We would simply ask in return, why young trees do not have vegetable apoplexy?—his theory, as well as older ones. And, again, if fungi are the cause, why they do not attack young trees as well as older trees? But we do not wish to weary the readers of *Pomologist and Gardener* with any further remarks in this connection. We will, therefore, let what has been already said, suffice for the present.

Notes on Fruits—Codling Moth, Etc.

OUR crop of apples is not what it was last year, which perhaps encourages the Codling Moth to think it can dispose of the whole crop before cold weather comes. This intolerable pest of the orchard certainly shows a decided inclination to "push things" with such zeal and energy as would attract attention even in a new convert. If we can't "head off" the Codling Moths, can't we put them to some good use? No trouble in raising a large crop of them. What kind of *vinegar* do they make? and at what time is it best to commence on them? Among the varieties of apples bearing fair to good crops, are the following: Phillips' Sweet, Westfield Seek-no-further, Potter's Early, Oldenburg, Astrachan, Hog Island Sweet, Bevan's Favorite, Belle du Havre, Fulton, Cole's Quince, Am. Summer Pearmain, Jonathan, White Winter Pearmain, Early Joe, Wagner, Minister and Duling Sweet. The last mentioned sort I regard as one of our best summer apples. I will send you specimens when ripe. Benoni, as-usual, is fruitless. After seeing this variety tested for the last seventeen years on my father's grounds, I think it as near worthless for this locality as any variety in cultivation; however, it may improve with age. Early Pennock is also bearing well, not much blight or scab yet.

Cherries did very poorly, except English and Plumstone Morellos, both of which bore very heavy crops. I have seen the English Morello in bearing for fifteen years at this place, and in all that time have not known it to miss producing a good crop.

Some varieties of pears are bearing very well, among others, Fondante d'Automne and Doyenne Boussock. The Codling Moth does not seem inclined to work on them to the extent it does on the apple. However, there is a great difference in its depredations on different varieties of the apple. Duchess of Oldenburg [too sour for anything to work on—Ed.], for instance, has been but little injured by this pest.

Lombard plums will probably all rot, although they have not been damaged materially by the Curculio.

B. A. MATTHEWS.

Knoxville, Iowa, July 15, 1872.

American Grape Vines in France.

OUR grape vines are at last beginning to be appreciated in Europe. One of my correspondents, L. Laliman, of Bordeaux, who has cultivated with commendable zeal many of our American varieties, is not only getting his reward in the possession of some which resist the ravages of the dreaded root-louse (*Phylloxera vastatrix*) better than any of the European varieties, but in the production of a superior wine. In a late letter he writes:

"The wines which I obtain from certain American varieties age very rapidly, and I may tell you that the Jacquez [I do not know this variety], the Lenoir, the Clinton and the Long [known to us as the Cunningham], mixed together, give me a wine much superior to those I get from our own French varieties. The Delaware, also, mixed with the Taylor, makes a very agreeable wine."

In an article written by him last April,* he further says: "Certain vines of the *cordifolia* [*riparia*] species make a very good wine, and certain hybrids, as well as some varieties of *æstivalis*, produce wines so like our own that we shall find it to our advantage to cultivate them, not only from an alcoholic stand-point, but for an abundance, color and taste which will astonish those who are acquainted with the *labrusca* only. * * * The Americans have made such rapid strides in horticulture of late that, we repeat, they have entirely changed the character of their vineyards. Certain grape growers have succeeded, by hybridization, in so improving their wild vines that their grapes to-day equal our best products of the kind."

This is not bad for a foreigner! And when we reflect that such of our varieties as have been found to resist the *Phylloxera* here, will be in demand there for grafting purposes, we may hope that our trans-Atlantic brethren will finally get to understand that we *can* grow good grapes.

It is to be regretted that more caution is not taken by those who write upon the subject of the *Phylloxera*. I lately noticed in one of the monthly reports from the Department of Agriculture the statement that varieties of *labrusca* are freest from the attacks of the louse; whereas *labrusca*, as a species suffers most. Such careless statements mislead, and may account for the fact that the varieties imported by the French minister have been mostly of this species.—C. V. R. in *Rural World*.

* Reponse a la Soc. Linnæense.

The Salway Peach.

WE should have acknowledged ere this, a yearling tree of the Salway Peach, last spring, from Mr. J. C. Neff, of Duncan's Falls, Ohio. The tree is making a fine growth, and though our locality is ill adapted to peach growing, we hope to eat of the fruit of this tree. And in this connection, for the benefit of others situated like ourselves, and who would enjoy the luxury of a home-grown peach, we would say: Commence with a yearling tree, cut back to within ten to fifteen inches of the ground, and allow three branches to grow from the main stem; train these with their laterals to a horizontal trellis, firmly fixed about two feet above the ground. This method of training admits of easy and safe protection in winter—simply throwing on a few forkful of straw, late in the fall. We have seen crop after crop produced in this way when other methods of protection failed, such as bending down and covering, packing upright with straw, corn stalks, etc.

Mr. Neff says of the Salway: "I received a number of trees from Mr. Pullen, of New Jersey, three years ago, and last season some of them fruited; I found the fruit all that Mr. Pullen claimed. The tree is a rampant grower and very hardy, having gone through three hard winters on my grounds without injury. The last winter was a hard one, the mercury fell twenty degrees below zero, but the Salway trees are out this spring as lively as the frogs. Mr. Pullen sent specimens of this peach to the editors of the *Maryland Farmer*, in 1869, with the following note:

'Herewith I present you with a few specimens of the Salway Peach. These specimens were grown on small trees which were slightly forced in my orchard house last spring. The Salway Peach, as you will observe, is a large yellow free-stone of very high color, and remarkably handsome. It ripens after the Smock, and therefore adds several days to the peach season. It is an English peach, and was first imported by my father, the late Isaac Pullen, about five years ago. He was so well pleased with its good qualities that he went extensively into the cultivation of it.'



FRUIT IN N. E. IOWA.—I have an abundant crop of apples. So far there is no sign of blight or scab. The blight on my Tallmans last year was caused by the locust. Small fruit has been very abundant, especially Strawberries. One of my neighbors sold over \$2,500 worth off 3½ acres. Crops of all kinds are excellent. My Early Washington, Sops of Wine, Red June, Early Harvest, Red Astrachan, Maiden Blush, Fall Pearmain, Fameuse and the Russets are loaded with fruit. We do not expect a full crop only every three years. Last year I had not over 200 bushels of apples, this year I will have 1,200 to 1,500 bushels of apples, and my Currant crop will be nearly 80 bushels. We had a very late spring. I planted corn on the 22d day of May that is now seven feet high. Potatoes are very fine—new Early Rose are selling for fifty cents a bushel in our market.

E. R. SHANKLAND.

Dubuque, Iowa, July 14, 1872.



Editorial Notes.

Ornamental Garden Vase.

A handsome vase is an admirable object for the center of a lawn, or for the side of an elegant dwelling. The grouping of plants should change somewhat to correspond with its locality, and its proximity to other ornamental objects. In the center of a wide lawn, with no standard tree or shrubs in sight, the vase should contain plants of considerable erect growth and stature, but if the vase is just on the edge or foreground of a dense clump of tall evergreens, the general character of the plants should be low and trailing. Bedding plants will then be found most suitable and appropriate. The *Tredescantia* is one of the best of trailing plants, also the *Linaria cymbalaria*. In early spring nothing exceeds a massive show of violets, fresh from the forcing-house. Tulips are often used for vase decoration, but we have never yet seen their appropriateness nor beauty for such situations. A solitary *Geranium* is pardonable, if it is thickly foliaged and a profuse bloomer—and a dense mass of blooming *Pelargoniums* are also very pretty.

The *Cineraria* is most common for such purposes, and among bedding plants, the *Petunia* and *Verbena*.

The design we give this month is taken from a view of the Composite Iron Works Company—one of the most popular and fashionable styles.

Horticultural Excursion.

An Excursion Party of three of our most eminent horticulturists, left New York on the 22nd of June, for a short business and pleasure trip to Europe, of about three months. The party consists of Josiah Hoopes, of Westchester, Pa., P. T. Quinn, horticultural Editor of *New York Tribune*, and B. K. Bliss, the well known seedsman of this city. They will visit the most interesting horticultural points of interest in England, France, and Germany. Only one of the number will write for American journals, this being Mr. Hoopes, who is engaged as correspondent of *The Christian Union*, and also *Hearth and Home*. They will return about September 1st.

Early Rose Potato in England.

It would seem from reports that the Early Rose, in the second year of its trial is destined to excel even the best of the English varieties. A gardener writing to the *Gardener's Chronicle* says, he has it growing side by side with *Fortyolds*, one of the best of the English sorts, and it has proved to be not only earlier but better in quality. The crop is nearly as many in number, but double and treble the size of the *Fortyolds*. He thinks it will prove a god-send to the gardener.

Model Nurseries.

A short visit of a day at Westchester, Pa., and a ramble over the nurseries of Hoopes Brothers & Thomas, and Otto & Achelis, revealed a condition of horticultural enterprise at once pleasant, encouraging and suggestive. The firm of Hoopes Brothers & Thomas, are all young men, but with characteristic enterprise and assiduity, have persevered, and by honorable dealing, safe and prudent transactions, built up one of the largest nurseries south of New York. Their grounds now compose 375 acres, devoted mainly to ornamental stock, and peach trees. The shape of their land is so laid out, that in portions there are strips nearly a mile long and half a mile wide. Saddest of all remembrances of our visit, was the sight of so many large beds of evergreens scorched with the winter's chilling touch. Not far from 50,000 evergreens have been lost, the estimated value of which is not far from \$10,000; and, indeed, we think this sum will not be sufficient to cover the loss. Entire blocks were seen, 50 feet wide, and 200 or more feet long, stocked thickly with young evergreens, every single one killed to the very tips, and showing a solid mass of dried stems, leaves and branches. Nothing could have been more thorough than the work of desolation. To add still more to the hardships of the occasion, was the fact that these had been all sold or engaged to purchasers, and it was impossible from other sources to fill the vacancy. The spring has been the driest ever known, and hindered planting very materially.

In the grounds of Otto & Achelis, who have seventy acres devoted to ornamental stock, the loss has not been so severe, owing to a more sheltered location from the northwest wind, but the loss has been heavy enough. It is one of the most gratifying signs of the progress of horticultural taste, to discover that in our principal nurseries, more space is now being given to ornamental stock, and to find that fruit stock is less in demand, the fruit fevers of the public appetite apparently having ceased.

A New Floral Establishment.

A perfect gem in its way, we found one afternoon, as we sauntered up the long Germantown Avenue, in Germantown, Pa. Brother Meehan came out to meet us, and together, we walked towards Chestnut Hill, or, rather, Mount Airy. Just over a little rise of ground, we saw a pretty row of greenhouses, with nursery behind and flower garden before, decorated with just a few of the best and rarest plants. This was the site of Miller & Hayes' new Mount Airy Floricultural Nursery. Geraniums apparently seemed to grow everywhere. Mr. Hayes said, *Lucius* was the best, and we looked *Lucius* in the face so long that he blushed deep crimson, and we ditto, *because* we liked him. We were so bewildered with the taste and manner of his new favorites, which alas, a lost note book fails to record, that we blush again to acknowledge we cannot do it justice in this description. It is sufficient to say it is one of the easiest, handsomest, and most enterprising of all the floral gardens in Philadelphia.

Early Rose again in England.

Another English gardener says: "I planted, in small quantity, at the same time with *Wyatt's Prolific* and *Royal Ashleaf*, and find that it is quite as early as *Prolific*; is a very abundant bearer, and a very delicately flavored potato. I look upon it as a great acquisition."

A Cure for the Yellows in Peaches.

Gradually we are approaching toward something sensible and conclusive in the search for the cause of the yellows in peaches. Prof. R. C. Kedsie, of the Agricultural College at Lansing, Michigan, says, after an examination of a tree afflicted with the yellows, which was in his neighborhood, he had little doubt that fungus at the root was the cause of it, and among the various instances of cure have been the use of hot water, by opening shallow trenches around peach trees, and by pouring boiling water about the roots, the yellows have, in time, disappeared. Another treatment of

diseased trees was taken at Benton Harbor, where ashes were placed in a shallow trough, at the root of the tree, then pouring over the ashes, and also over the roots of the tree, liberal quantities of boiling water, the result seemed a radical cure.

ANALYSIS OF ASH.

The ash obtained by burning the wood of a diseased peach tree was carefully analyzed, also the ash from a healthy tree growing in his garden. The results of the analysis are as follows :

	With Yellows.	Healthy.
Carbonate of Potash	7.24	10.38
Carbonate of Soda	3 82	3.12
Chloride of Sodium21	.13
Sulphate of Lime.....	1.41	.92
Carbonate of Lime.....	66.61	62.10
Phosphate of Lime.....	13.16	15.71
Carbonate of Magnesia	5.05	5.31
Silicia Acid.....	1.40	1.21
Oxide of Iron.....	.84	.92
Moisture and loss25	.30
	<hr/> 100.00 <hr/>	<hr/> 100.00 <hr/>

These analyses show a decided difference, and partially explain, as well as endorse, our theory that the yellows are the result of *starvation*. In the diseased tree there is a deficiency of 3.11 of Potash, or about one-third the full measure of the healthy tree; also a deficiency of 2.55 of Phosphate of Lime, or nearly 20 per cent. This seems to us a clear explanation; the tree first becomes weak from deficiency of proper food, and in this enfeebled condition engenders disease, is subject to fungus, and finally culminates in outward manifestations. We believe that the liberal treatment of peach orchards with Potash, Phosphate of Lime, and high manuring generally, will prove a decided remedy. In another page we give a few suggestions how to take care of diseased trees.

High Prices of Fruit Farms in Michigan.

The prices for good fruit land in Michigan are by far the highest of any portion of the United States. It is stated that one farm of 31 acres, two miles out of St. Joseph, was sold to William Lombard, of Chicago, for \$35,000. Benjamin Lombard bought the Luce farm of 10 acres for \$9,000. Professor Sawyer, of Chicago, purchased the Sherwood farm of 20 acres for \$18,000. A. O. French sold his land for \$8,500, and the Wellington Stewart place was bought by I. S. Reed for \$12,500; it contains 20 acres.

Report on Insects.

Mr. C. V. Riley, State Entomologist of Missouri, has favored us with an advance copy of his fourth annual report for 1871. A large amount of space has been devoted to the *Colorado Potato Beetle*, its habits, and cure by the use of Paris Green. Then follow descriptions of new insects, and a half dozen pages to the Codling Moth, and the means of killing it by bandages, etc. Mr. Thos. Wiers' Trap is both favorably noticed, and sport made of some extravagant claims in the circular of the inventor. His remarks upon catching the Codling Moth contains a good deal of sound information. Much the largest portion of the report is devoted to Silk Worms and silk culture, illustrated with many exquisite engravings. Mr. Riley knows so well how to make a good report, that further comment would be superfluous, other than to say it is the best ever issued.

Floral Notes.

The Yucca Flaccida.

James T. Worthington, of Chillicothe, Ohio, commends in the *Our Farm Journal*, the cultivation of the *Yucca Flaccida*.

This plant, a native of lower Ohio and Mississippi valleys where it is known as "Bear-grass," is a hardy evergreen with stout tuberous roots and a profusion of evergreen leaves three or four feet long and one or two inches wide. After being wilted for a day or two the leaves are as tough and strong as leather, so long as they remain moist. It thrives in any good corn land, remains green and flourishing during our hardest winters, and requires no care after being once established, except to thin out the plants when they crowd each other. It attains its full size in three or four years, each plant then covering about sixteen square feet, and sends up yearly for many years hundreds of evergreen leaves which may be plucked freely at any season without injury to the plant.

Every spring it sends up several suckers from which it is easily multiplied. March and April are the best months for transplanting. For supplying cheap, strong strings and bands, it has no equal; is excellent for tying up bacon, hams, corn shocks, vines, bundles of vegetables, mending baskets and other purposes when a string or band is needed, and requires only to be known to be generally cultivated. About mid summer it sends up a stout stalk six to eight feet high, with branching top and pendent shaped flowers like the century plant, cream colored and fragrant, and is then very beautiful. This variety, and a smaller and less valuable kind, are common in gardens in Kentucky and Southern Ohio. The leaves of the large kind (*Y. Flaccida*) will, I think, be eventually used for cordage, matting and coarse clothes instead of jute and other fibrous materials which we now import.

Plants Growing in Windows, etc.

Thousands who try to grow plants in pots, tubs or boxes, fail, mostly because they let the pots be exposed to the hot sun. Now we never see the roots—that is, that part which draws nutriment from the soil—fully exposed to the sun in a state of nature, and this should teach window gardeners to shade the pots and boxes in which their plants grow.

Another cause of failure is allowing the leaves to get dusty. The leaves being in reality the lungs of the plant it is imperative that they should be kept clean. I have often been asked why plants did not do well in windows, and it is often as difficult to answer without seeing the plants, but the general failures occur from the causes I have named, for it stands to reason that if half the roots of a plant are burned off repeatedly and the leaves are killed with dust, that sickness will be the result. It is easy to clean off the dust by taking a little broom or brush and dipping it in water and flinging it over the leaves of the plants two or three times in a week; try it, ladies.—*Prairie Farmer*.

To Destroy Aphis on Single Plants.

An English writer recommends the following mode: If the infested plant is small and short, take three or four laurel leaves, beat them all over with a hammer so as to thoroughly bruise them: then place them round or under the plant and cover; a bell glass does best. Let all remain closed for a few hours, and the aphides will be found dead, each hanging by its proboscis only. If this process is repeated within a day or two to make sure, the plant will be perfectly freed, and in some cases is not again attacked. This way of killing aphides may be acceptable to those who dislike tobacco smoke; all danger arising from an overdose of it to a very tender plant is avoided; and the laurel is so generally grown, it must be almost everywhere at hand for the purpose.

Removing Bulbs.

The *Prairie Farmer* says, that the reason bulbs are oftenest finer if removed frequently, is that in re-planting, each bulb has more space, and open, free ground to grow and perfect themselves in. If left the second year, for example, each single bulb will have become three or more. These are crowded close together. They should, however, give quite an extra number of flowers the next spring, but somewhat decreased in size. If they are left one more year, each bulb will have made efforts to increase itself proportionately, and a general crowding is the result, with still weaker flowers.

The Odors of Plants.

It may be laid down, as a general principle, that a larger proportion of white flowers are fragrant than those of any other color; yellow comes next, then red and lastly blue; after which, and in the same order may be reckoned violet, green, orange, brown and black.

The Camellia.

The Camellia is a difficult plant to manage. It is hard to say what causes the trouble, but too much sunlight is the probable cause. This will indicate the cure. They can be propagated by cuttings, but it is difficult. Layers are better, but take time. Raising seedlings is a slow process, and then they must be budded or inarched; better to buy plants than propagate. Let our florists tell our correspondent how to manage. An exchange says:

Camellias thrive best in a cool, moist atmosphere—one quite different from that usually found in an ordinary sitting room. Any considerable change in the temperature of the air, or in the amount of water applied is very likely to make Camellias cast their buds; still we know of many ladies who have excellent success in growing and blooming them as parlor plants. We do not think the Camellia is a difficult plant to cultivate, but it requires a peculiar treatment, and one quite different from roses and geraniums.

We would advise keeping plants in an atmosphere not above sixty degrees nor below forty-five degrees; keep the soil moist by giving plants plenty of water once or twice a week, but do not apply a little every day as is the too common practice with amateurs in window gardening. If the plants cast their buds again this season, take them out of the pots and soak the ball of earth for a few hours in water until it is wet through. If any of the roots are rotten, cut them away. Remove a portion of the soil, or all, if it parts readily from the roots. Now take good fresh loam from a hedge row or near an old fence—that which is full of rich vegetable mould—and add to this some old, rotten, cow manure, say one-fourth the whole quantity of the latter. Break up and thoroughly mix this compost and it is ready for use. Put the plants again in this material, being careful to put plenty of drainage in the bottom, and see that every root is surrounded with soil. Press the soil in firmly, give water to settle it, and put the plants in a situation to grow again.

Next summer set the plants outdoors in a half shady position, and water them as required. Apply water frequently overhead in order to keep the leaves clean and free from dust. In autumn remove the plants to the house, and if you do not water too freely, give too much heat, or make some other grave mistake, the plants will not fail to do well.—*Exchange.*

Pruning Rose Bushes.

A lady friend, who seems only a little less interested in the proper culture of her outdoor shrubbery than she does in the in-door culture of those charming little specimens of humanity which are daily committed to her charge, asks us when she shall prune her Rose Bushes. As this is a question that often comes to us for answer, thus evincing not only considerable interest, but considerable ignorance in the subject of rose culture, we will briefly dispose of it here, lest the pruning knife in the hands of the enthusiastic and uninformed *now* may cause no little regret *hereafter*.

The *when* to prune rose bushes depends entirely upon the class or family of roses to be pruned. Without going into a systematic consideration of the different species of the rose, for which we have no time just now, we will merely say that there are three grand divisions of the rose genus, each of which requires a mode of pruning peculiar to itself. For the first class, or those roses that bloom but once a year—summer roses as they are called, we have always found it best to prune them pretty severely as soon as the period of blooming is over, unless it should be very dry, in which case we defer the pruning until just as the fall growth begins. By this course we get an abundance of young spurs, or shoots, for flowering the next season. For the hybrid Perpetuals, or Romontantes, which usually blossom both in spring and fall, we have generally pruned them late in the spring, so as to prevent their first crop of blossoms, and thus secure an extra supply of young shoots for fall blooming, when flowers of this character are scarcer and more desirable. For the true Perpetuals—The Teas, Bourbons, Noisettes, etc., it makes but little difference when the pruning is done, as but very little is needed at any time, merely taking out the old wood in winter, and shortening in any extra vigorous shoot, after it has flowered.—*Rural Southland.*

Plunging Potted Plants.

There are many kinds of greenhouse plants that should be kept in pots during Summer, in order to secure an abundance of flowers the next Winter. I have had a plunging bed made for this purpose, in a half shady situation, under some large trees. Camellias, azaleas, begonias, bouvardias, and similar plants, should be repotted as soon as they have finished blooming in Winter or Spring, and then plunged in such a bed as I have described. The pots should be plunged up to the very top, and placed as near together as the branches of the plants will allow. Roses and fuchsias that are wanted for Winter blooming, should also be kept in pots, and all buds that appear during the summer removed as soon as they appear. In dry weather the plants should be frequently watered over head, and the earth in and around the pots kept moist. If ladies who keep many window plants would try this plunging system during Summer they might save many choice specimens that are otherwise lost. Camellias in particular, are very likely to be injured if the pots are exposed to the hot, dry winds in Summer, the plants making a feeble growth, and the buds drop long before the usual time of blooming.—*Cor. Rural New Yorker.*

Horticultural Notes.

Southern California.

A contributor to the *Tribune*, from Santa Barbara, Cal., speaks of the beauty of the climate and the ease of fruit culture :

Our climate is more genial than that of Italy, semi-tropical fruits grow to perfection, oranges ripen on the trees in January, and our Summers are so cool and balmy that Northern fruits do better here than in their native homes. The almond, English walnut, olive, orange, fig, lemon, lime, loquat, guava, apricot, nectarine, peach, plum, apple and pear, stand in our garden side by side, and demonstrate our climate and the capacity of our country. The "Big Grapevine," four miles northeast of town, a foot in diameter, covering an arbor 60 by 75 feet, is said to be the largest in the world, and yields annually from four to six tons of better grapes than New York market affords. Three-year old Languedoc almond trees in my garden are loaded with nuts, and will yield a better revenue than the ground would if planted to corn. A ten-year old tree of this variety should yield 100 pounds per annum, and 100 such trees may be planted to the acre. The nuts sold at 24 cents per pound last Fall. An estimate will show that at these rates an acre should yield an income of \$2,400, quite enough

to support a family, and ten acres would be a fortune for a poor man. The olive, English walnut, orange, lemon, lime, fig, and other semi-tropical fruits are said to be nearly as remunerative.

Honey Locust Hedges.

J. W. Pearman writes the *Prairie Farmer* of his experience in growing the Honey Locust for the past five years, and his plan in starting the seed is to place a vessel on the stove and fill it half full of water. Let the water come to a *boil*, fill the vessel with seed while the *water is boiling*, and then set off (covered up) for twenty-four hours, after which, the seeds are ready for planting. Seeds that are sufficiently scalded are usually twice their natural size and very soft, and would appear, to one not acquainted with the fact, as being scalded to death; but if you will examine carefully, you will find the germ nicely started, and if planted in good warm soil, well cultivated, will come through in three days. Seeds not scalded as above mentioned, will require from four to six months in the ground before germinating. At least, that is my experience.

Killed by Freezing.

It has long been a question whether plants, killed by frost, die in freezing or in thawing. That in certain cases plants die in freezing, is shown by Professor Gœppert, of Breslau, in a recent number of *Bot. Zeitung*. The flowers of certain orchids, notably the milk-white, blossoms of *Calanthe veratrifolia*, produce indigo, but only upon a chemical reaction which takes effect upon the death of the parts. When crushed, or the cells in any way destroyed as to vitality, they turn blue immediately. Now, upon exposure to cold, the flowers turn blue at once upon freezing, showing that life is then departed. *Phaius grandiflores*, and other species of that genus, are said to show the same thing.

To Cover a Steep Bank with Grass.

A German method is: For each square rod to be planted, take half a pound of lawn grass seed, and mix it intimately and thoroughly with about six cubic feet of good dry garden earth and loam. This is placed in a tub and to it liquid manure, diluted with about two-thirds of water, is added and well stirred in, so as to bring the whole to the consistency of mortar. The slope is to be cleaned off and made perfectly smooth and then well watered, after which the paste just mentioned is to be applied with a trowel and made as even and thin as possible. Should it crack by exposure to the air, it is to be again watered and smoothed up, day by day, until the grass makes its appearance, which will be in from eight to fourteen days, and the whole declivity will soon be covered by a close carpet of green.

New Variety of Cucumber.

In "*Land and Water*," we have a figure and description of what is called the new white-spine cucumber. This, when raised on a trellis, grows to an enormous size, one vine having three specimens, each of them three feet in length, besides many others over two feet long. The flesh is said to be very solid, with but few seeds, and the flavor very fine. This method of growing cucumbers is recommended as furnishing a much superior result to that of allowing them to trail on the ground, as they thus grow finer, straighter, and with a larger yield. This new cucumber has the skin perfectly smooth. It is very short in the neck, and it is considered a decided gain to the resources of the vegetable gardener.

Asparagus Crop.

Josiah White, residing near Denton, Md., has about twelve acres in asparagus, and although not in full bearing, sent to market this spring about 800 bunches per week. It brought in the Philadelphia market \$7 per dozen, and early in the season

as high as \$10 per dozen. This is only the second year since the crop was started, and it pays handsomely now. Next year it will be in full bearing, and the crop will be immense. This crop will pay well at \$2.50 per dozen bunches.

How to Destroy Noxious Insects.

A small black flea, in great swarms, eats the leaves of cabbage plants after they come up from seeds sown in the open ground, and also early cabbage plants, after being set out in the open ground from hot-beds. A slight dusting of fresh slacked lime over the plants in the morning, while wet with the dew, will drive them off or kill them. Dust the plants one morning, and again the second morning after that, then the job is finished. The flea is more fond of pepper cress than cabbages, so that if the cress is sown thinly along with the cabbage seed, it will save the cabbages.

A greenish, mealy louse, in vast numbers, attacks cabbages when nearly full grown. Two dustings of fresh lime will kill them.

A black grub, which lodges in the ground, eats through the stems of young cabbages, after being transplanted, causing the heads to drop off. Whenever that is observed, search around the plants cut off, and find the grub and kill it. It is only a quarter of an inch under the surface. After it eats off one plant it gets to another, so that you must search among the neighboring plants, if not found where it has been devastating.

The wire-worm lodges in the ground, and is destructive to the seeds of Lima and pole beans and Indian corn. Plant twice as many seeds as you want plants. When they begin to push through the ground, draw the soil from the plants gently, and see if there be no worms in them. If the worms are there, pick them out with a pin or needle and destroy.

Many of the insects that lodge in the ground may be destroyed in *this* way: Dig or plow up the ground in Fall, or early Spring; sow over it Peruvian guano, or lime, or salt. They are all poison to insects. Salt should not be used where cabbages are to be planted, as it makes them club-footed.

When berry bushes, or shrubbery, or young trees are attacked by caterpillars, two dustings of fresh lime over them, in the mornings, while the leaves are wet with the dew, will kill them all. It will do the same with large trees that are infested, but it is difficult to dust them all over.—*F. E., in Journal of the Farm.*

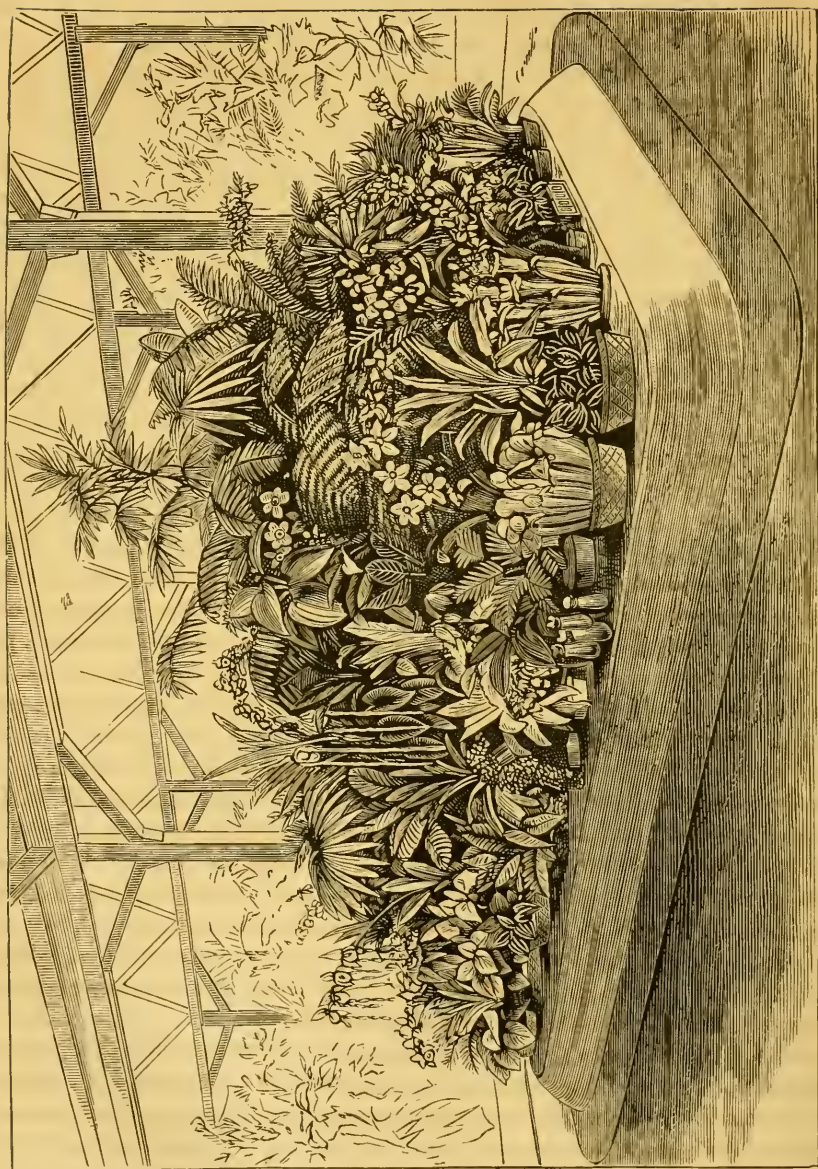
Editorial Notices.

Typographical Errors.

On page 204, July HORTICULTURIST, read Beurre D'Amalis, instead of as printed. Page 215, read Magnolia Macrophylla. Readers will excuse such mistakes of the type, being unintentional, and occurring without the knowledge of the editor.

The Western Horticultural Advertiser.

Advertisements may be ordered in our advertising pages, for western circulation only; and we have opened a department for this purpose, with heading as above. This western edition is intended specially for all points west of the Mississippi river; and the eastern edition, for points east of the Mississippi. Advertisers in both editions will reach the whole country; but the western advertising edition only points beyond the Mississippi. There is a slight difference in rates, averaging twenty per cent lower for western edition alone. Advertisements should reach either office by 20th of each month.



VEITCH'S GROUP OF CHOICE PLANTS IN ROYAL HORTICULTURAL SOCIETY.



VOL. 27.

SEPTEMBER, 1872.

NO. 315.

Floral Rambles.—No. 1. Colorado, and the Rocky Mountains.

BY THE EDITOR.

BEAUTIFUL as are our home gardens, with their borders, parterres, beds, and hanging or creeping greenery, yet it always does one good to step for once out of home confines, and take a good, enjoyable and refreshing look at some of the grand *natural flower gardens*, provided by mother Nature, in far-off, out-of-the-way places, decorated in the most profuse style by wild children of the Flora, and brilliant with the most gorgeous colors.

There remained in my mind a sweet and lingering memory of the really enjoyable days we spent last year in our memorable and delicious excursion through Colorado. Like a dream of Persian gardens, and odors of perfumed breezes from Araby the Blest, it came often, and hovered around; and this summer, resisting not this temptation, nor repressing enthusiastic longings for the same old mountain scenes, and beautiful vistas of park or canon scenery, the writer was lured westward.

The season was far more favorable this year for the flower lover, or the scenery admirer, than last year—more rain had fallen, and scarcely a day passed in some localities, but shared its regular mid afternoon showers.

Pike's Peak itself sent down some roaring gusts; and thunderstorms of terrific lightning, with skies of inky blackness, and rushing rain, played many a grand natural theatrical act before the eyes of astonished hotel guests. The mountains were clothed with snow deeper than ever, and afforded a most sublime vision. The streams were all full, and irrigating ditches were overflowed, while the entire plains for miles out were covered with the greenest of grasses, and farmers were happy with abundance of food. Last year the contrast to this was remarkable. No snow, few streams, no rain, and a country completely dried and sere.

This year the plains were lovely in their green drapery, but the hills were unusually resplendent with floral bloom, revealing glimpses of square acres of brilliant flowers. I could not name them all, only the most familiar. *Penstemons* formed a carpet by themselves, here and there interrupted by a stump or a fallen tree, over which skipped dozens of lively little squirrels. Then followed a 100 acre farm of *Indian Pinks*, growing so luxuriant I could hardly believe they were the same as my little acquaintances of last year, then scarcely six inches high. As I remember them last August, they bore only a neat straight stem, surmounted with a petaled cup of gorgeous crimson, opened upward to the sky, the whole within six inches height. This year I saw the same flower growing twice and three times this height, and instead of but one solid, well-formed flower, the entire upper portion of the stem is a blaze of scarlet, for inches up and down. The very leaves, long and narrow, are crimson, and, indeed, if I can believe my sight, the entire plant has no flower, for its petals are its leaves, and these all gorgeously colored. Toward the top of the stem these leaves gather together in a concentrated series of rings, and bursting wide open when fully colored and well developed, they appear to form a brilliant flower. Citizens tell me here that this plant is an almost constant bloomer, remaining for months in full bloom. It begins in June, grows brighter in July, and fades in August. As fast as the leaves grow on the lower part of the stalk, they, too, turn crimson, and remain permanent in color. The latter part of June finds them much the most brilliant in display; often acres of the prairie grass are covered with myriads of their straight stems and scarlet tips, for miles on either hand. No plant or flower was so well remembered by the ladies as this, and when gathered together as a bouquet, the colors would rival those of the cultivated *Gladiolus*. They are often seen growing in clumps of two or three around one footstalk, and as the plant is a parasite, its roots living upon those of some other plant below the surface of the ground, it is difficult if not impossible to cultivate them successfully in our home gardens, unless they are transplanted each plant in a sod by itself.

Going further into the mountains, and especially near the mining districts, flowers are less frequently found; the surface of the soil is too rocky and rugged.

I engaged a faithful pony one morning and sauntered beyond Georgetown towards the top of Gray's Peak. Just on the edge of some timber land, lately cleared, I saw the beautiful blue clustered blossom of the *Aquilegia*, or *Rocky Mountain Columbine*. Such vigor of growth and thrift of habit! Here, at 9,000 feet elevation, where naturally one would expect stunted vegetation, it was as pure in color and vigorous in growth as the best I had seen in the garden of friend Hoopes, in Westchester, Pa. It seemed like meeting an old friend, and if I did not exactly kiss it, I at least stopped my pony, made a button-hole bouquet of some flower sprigs, and drank a delicious draught of water from a spring whose water rippled through the woodland and glided close through this wild garden.

I often saw masses of them together, and for three or four miles they seemed to be constantly in sight. As I ascended higher up the Peak they ceased, and at 10,000 feet were gone entirely. I never saw a flower above that elevation. Grass grows at the height of 13,000 feet, and timber about 12,000. I remember last year finding strips of grass and clusters of *Gentians* smuggling close together by the side

of the rocks within 300 feet of the summit of Pike's Peak, which was 14,375 feet high.

Although I had ascended so near to the top of Gray's Peak that one more hour would have enabled me to scale its summit, yet a sudden storm and pattering rain forced me to turn my steed and haste for shelter. I found it in a pleasant cabin of a family of English miners. The good lady was herself owner of a \$5,000 lode, and each of the men was actually or prospectively rich in same manner.

Happening to open my note book, a pretty little card chromo of a Moss Rose, one of Prang's nicest, showed its face. Her eye caught it, and she sprang to look at it, and—well, the result may be told—she got it, and kept it, but I came away with a dinner, and a piece of her silver mine.

Her delight with the climate was great,—so pure, so healthful, so invigorating. Snows never frightened; in fact, only a week before I was there a snow-bank six feet deep extended across the road just below their door,—and my own horse crossed many a snowy place in the road above them.

The good woman's delight at flowers is an index to the tastes of the entire people of the territory. I do not think I ever saw a community of so many different occupations so delightfully interested in flowers. In fact, every house in Georgetown has a window garden. Stores, hotels and private residences, all showed the universal enthusiasm.

I saw many exquisite hanging baskets, filled with native plants. Indeed, as I now remember, most of these indoor gardens were filled with wild plants and flowers, and not one of our common cultivated sorts. So much, then, for taste. You need not be surprised, then, to find there an order-loving community. Gold and silver were in the mountains, but better golden and silver thoughts were in the hearts of these flower lovers. Bless their memory!

Coming back on the stage coach, I caught glimpses of scenery, spread out in most ravishing style. My breath, even now, I hold, as I think of some glorious vista, or entrancing view from the top of a very steep hill. Before and behind there was a panorama of mingled pines, mountains, snow and ravines, equal to the best ever Bierstadt thought of. No American mountain scenery can compare with this. It is too grand for description.

From Denver I went southward to Colorado Springs. Prof. Porter, of Lafayette College, Easton, Pa., was one of our party—which, by the way, was organized in honor of Hon. Jno. Scott, of Pa.—and friends, who were guests of the Narrow Gauge R. R. An elegant excursion car was provided for the company, and the sensations of a fine ride over so famous a route were well experienced.

Cars never carried more precious freight than then, for the professor—almost ubiquitous, everywhere at once in search of floral treasure—not only astonished us with the most overwhelming of bouquets, gathered from the prairies wherever we stopped, but also with botanical names built up in the most gigantic style.

Think, ye stay-at-homes, of a ride for six hours with the Rocky Mountains on one side of you, their summits capped with snow and gilded with the unreserved splendor of the sun; then look between you and them and see peaceful valleys and natural parks, the home of thrifty cattle or happy ranchmen's cabins; then to the left of you,

and in fact all around you, a paradise of flowers. Never shall I forget one sweet spot, just before reaching the top of the divide, 40 miles from Denver. We stopped in the midst of a prairie thickly clustered with the *Gilia*.

The startling, blazing crimson of the *Gladiolus* was but an ineffectual comparison to the splendor of the colors of these *native floral maidens*. Rearing their tall stems upward $2\frac{1}{2}$ feet, surmounted with the dazzling crimson, pink and white bells, and millions of them in sight, hardly permitting room for the foot to rest without breaking one—it was indeed a “*joy never to be forgot.*”

Acres of Sun Flowers were strung along our track. Then, too, we saw the *Mexican Poppy*, with its pure white, delicate-leaved blossom, upward turned as if to drink in the exhilarating sunlight; the *Ipomœa*, or Rocky Mountain Creeping Convolvulus, hung for us its blue, bell-like blossoms; myriads of little Prairie Roses blushed with their light pink bloom; Lupines erected their stately blue heads, and scores of others, till we were fairly bewildered. At last the Professor capped the climax by the discovery of a Cactus with brilliant red blossom. The Professor was now a hero, equal to any occasion, and the admiration of the party.

A sage schoolmistress was gathering specimens, trying to name them. Unfortunately she became mystified. Her botany flew out of her head, and the good-hearted Professor essayed to help her. A long, awkward grass came up for discussion. She called it Gamma, but the Professor electrified the train full of passengers with laughter when in a solemn way (and plenty of time to speak it in) he rolled out slowly this ponderous name: *Plantago Patagonicum*. 'Twas enough for one day. Ere we recovered from our amusement the train brought us in sight of Colorado Springs.

Imagine, then, some of the delights of floral rambles and botanizing among these Rocky Mountains. Perhaps the botanist *now* coming may not find anything *new*, where so many have gleaned the field before, but he will always be entranced with the profusion of the flowers, the unusual brilliancy of colors, the grandeur of the mountains, the ascent of the peaks, the sublime, inspiring atmosphere, the exhilaration of spirits, and, best of all, a grand appetite, with invigorated bodily powers.

Colorado Springs nestles at the foot of Pike's Peak, a beautiful home for any invalid. Standing on the plains of Fountain Colony, six miles away, where Gen. Cameron has gathered 1,000 inhabitants in one year, there is revealed to you the very best glimpse of the mountain. 'Tis a picture of boldness and variety of color unrivaled in America.

Go, then, to Colorado, and enjoy, besides the flowers, its canons, its scenery, and life-giving atmosphere. One fact seemed curious to me. At elevations of 8,000 feet, I found better lands, a better climate, the temperature was more equable, grass greener, almost perennial in growth, and cattle grazing the year round. Flowers, too, were more profuse and brilliant. Above this, the air is too cold and forbidding. Below this brings you down to the warm plains, uncertain showers and dry grasses.

At 6,000 to 8,000 feet, I noticed the *Euphorbia variegata* in full bloom, well opened out, when for hundreds of miles, the week previous, I rode through central and western Kansas, 4,000 to 5,000 feet lower, yet it had not opened one-fourth of its leaves.

The flowers of Colorado are of course numerous, but a list of twelve to fifteen will include the most brilliant kinds. And of them all, dearly to be loved, are the Indian Pink, Columbine and Gilia.

H. T. W.

Group of New and Rare Plants.

AT the recent show of the Royal Horticultural Society, at Nottingham, England, there was exhibited a beautiful group of plants, by Messrs. Veitch, the well-known English florists, which, in the words of the *Journal of Horticulture*, were remarkable not merely for the beauty of their arrangement, but also the individual beauty of the plants composing it, and the perfection of culture which they displayed. This group, we figure now in our frontispiece this month, and the plants are so distinctly represented, any one familiar with greenhouse collections will recognize all the specimens. Palms and Ferns are mingled with Marantas, Caladiums, Dracænas, Hydrangeas, and others of tropical foliage, or beautiful blossom. The disposition of the group not only shows compactness, but also a very fine chance for display.

Ornamental Grasses.

THIS topic is so seldom touched upon by horticultural writers, that we are glad to welcome information from any source. Dried Grasses will always be among the most fashionable and elegant of parlor or sitting-room decorations for the homes of our country citizens. They are proscribed from city drawing-rooms, with how much reason, we know not, yet without good sense. Mr. F. D. Horner in the *Journal of Horticulture*, revives the interest in this class of ornamental plants with timely and pleasant advice :

How and when to sow the seed are, as might be expected, matters of importance. Never sow it thickly, for there is often some feature of beauty in the habit of a Grass only developed by virtue of allowing room for free and unentangled growth. All this is lost, and more also, by a Mustard-and-Cress style of sowing; just as the beauty, bloom, and duration of annuals are provided against by dooming them to spindle in dense rings round their little central stick!

Seeds of the hardy Grasses may be either raised in pots, and without being drawn, or sown at once in the open ground, the utmost care being taken that the germinating seeds be never allowed to get dried. By sowing the seed upon well-broken earth, and afterwards gently raking it over, I have found enough seeds covered lightly to make a thick-enough crop. The best time to sow the hardy Grasses will be found to vary for different kinds.

A finer development of some will be obtained by sowing the seed as soon as it is ripe, in June or July. The young plants will appear during a period of wet weather, will get stocky by the autumn, stand the winter with the Wheat, have roots below March dust, and bloom before they can well be burnt-up. I say burnt-up advisedly;

for Grasses want something of sunshine and open air, and should not be grown in dark places which are all well enough for Ferns and Mosses.

A few very pretty Grasses that come stronger when allowed to stand the winter, are *Agrostis nebulosa* and *A. pulchella*, *Bromus brizæformis* and *B. lanuginosus*, *Lagurus ovatus*, *Hordeum jubatum* (perennial), and *Hordeum myuroides*.

Other commendable sorts which have escaped in mild winters, but certainly done well for spring sowing, are *Brizopyrum siculum* (most bonnie), *Briza maxima* and *B. minima*, and *Agrostis laxiflora*. *Phalaris paradoxa*, *P. minor*, and even *P. canariensis* may be used, but should not be overgrown. The last named is the familiar Canary seed, and a bunch of the ripe ears which I possess is very striking among the more solid ornamentals. The species of *Chloris*, *Eleusine*, *Panicum*, *Pennisetum*, and *Sorghum* are but half-hardy, and possess more or less a tropical luxuriance of growth. I have to treat them to a hotbed until the end of May, when they go out to some sunny spot under a south wall. The varieties of *Chloris* are all very curious, the ears consisting of a number of radiating arms in various modifications. *Chloris radiata* (when true), *cucullata*, and *truncata* are amongst the most distinct that I have met with. To be reckoned as a little gem among half-hardy Grasses is *Stipa elegantissima*. Each awned grain stands upon a delicately-feathered footstalk, the form of the ear resembling that of some of the Oat Grasses.

The time to gather Grasses for ornamental purposes is a matter of great importance. Some sorts dry to the best advantage when cut almost before they bloom at all; for at the least development beyond the flowering stage they will, when dry, fall away at a touch. The Barley Grasses (*Hordeum*) and the *Pennisetums* should be taken even before the heads are quite out of the sheath-blades. Others are best preserved when cut as the inflorescence expands, say half along the ears. This applies to *Bromus brizæformis* and *lanuginosus*, *Brizopyrum siculum*, and all the *Brizas* from *maxima* to *minima*. The *Chloris*, *Eleusine*, and some of the *Panicum* species, should not stand beyond their bloom. If cut too soon these would not preserve their form nor fully show it, and if left beyond would too easily fall to pieces. Some Grasses, again, are much more beautiful if left to perfect their seed before being cut, otherwise the heads will more or less shrink up and close. This would be so with *Agrostis nebulosa* and *pulchella*, while *Lagurus ovatus* may, with advantage, be also left till ripe; so may some of the sorts of *Panicum* and *Sorghum*, for they bear grain distinct enough to form one feature of attractiveness.

As to bleaching dried Grasses after the manner of skeleton leaves and seed-pods, the only method I ever tried was that of steeping them for a time in a solution of chloride of lime until the tissues seemed whitened, and were so when dry. The time required has seemed to vary, but care must be taken not to overdo the specimens, or they will be injured in the process. I have no doubt that, like myself, any one experimenting will soon learn to pick his way after a few of those little troubles that make one wise.

I have named but a few out of the Grasses I have grown, but these are abiding favorites; and although I have beauties far more rich and rare among my *Auriculas* and other florists' flowers, still the lowly graces of the family of the Grasses have a winsomeness of their own that does not weary.

Floral Notes.

Arrangement of Cut Flowers.

The *London Gardener* says that of all the various mistakes made by persons in arranging flowers, the commonest is that of putting too many into a vase; and next to that, is the mistake of putting too great a variety of colors into one bouquet. Every flower in a group should be clearly distinguishable and determinable without pulling the nosegay to pieces; the calyx of a clove pink should never be hid by being plunged into the head of white phlox, however well the colors may look. Sweet peas never look so well in the hands as they do on the boughs over which they climb, because they cannot be carried without crowding them; but put them lightly into a vase with an equal number of mignonette; or, rather, ornament a vase half full of mignonette, with a few blooms of sweet peas, and you get a charming effect, because you follow the natural arrangement by avoiding crowding of the blooms, and putting them with the green foliage which they want to set them off. Few people are aware until they try it, how easy it is to spoil such a pleasing combination as this; a piece of caleolaria, scarlet geranium, or blue salvia, would ruin it effectually. Such decided colors as these require to be grouped in another vase, and should not even be placed on the same table with sweet peas. They also require a much larger preponderance of foliage than is wanted by flowers of more delicate colors. It is unquestionably difficult to resist the temptation of "just putting in" this or that flower, because "it is such a beauty;" a beauty it may be—and so may be an apricot—but it would be out of place in a basin of green pea soup! There is at least one proper place for every flower; then let every flower be in its proper place.

Ornamental Flowering Shrubs.

Application is often made by amateurs and novices in rural ornament for a list of Shrubs arranged according to the time of blooming. Such a list, we notice, has been recently published by the *American Rural Home*, and here quote it. We do not suppose the list is complete, but it comprises most of the sorts generally planted:

SHRUBS BLOOMING IN APRIL.

Azalea (nudiflora).—This early blooming shrub is found growing wild in swamps, and is familiarly known as Honeysuckle. It is cultivated by nurserymen, and from its profusion of curious, pink flowers blooming so very early, is worthy a place in the lawn.

Mezereum, Pink.—A pretty little shrub with pink flowers, that show themselves very early.

Mezereum, White.—A variety with white flowers.

The shrubs blooming in April are not numerous or *very* beautiful, but almost any flowers are welcome so early in spring.

SHRUBS BLOOMING IN MAY.

We have a greater variety flowering in this month, some unsurpassed in beauty.

Almond, Dwarf Double-flowering.—A long acquaintance does not lead us to reject this attractive little shrub, covered as it is, a large portion of the month, with a profusion of double rosy blossoms. A sub-variety has white blossoms,

Double Crimson Flowering Currant—Sometimes called Missouri Currant, has large, brilliant double red flowers that make it desirable as an ornament.

Forsythia viridissima.—Blossoms very early in May—has bright yellow blossoms.

Honeysuckle, Red Tartarian.—We can hardly afford to spare this old friend from our yards. It is a very vigorous, strong-growing shrub, bearing bright pink flowers.

Lilac.—There are now in cultivation a number of varieties of the Lilac, with different shades of purple and white blossoms, among which Persian Purple and Persian White are most desirable.

Magnolia.—Some varieties of the Magnolia are so dwarf that they may be properly classed among the shrubs. Chinese Purple and Chinese Red are finest.

Japan Quince, Scarlet.—The varieties of our old favorite, Japan Quince, or Cydonia Japonica, have been multiplied, but we are not certain that any surpasses in beauty the old Scarlet.

Spiræas.—There are numerous varieties of this beautiful shrub. Among those flowering in May.

Double Flowering Plum-leaved, and Reevesii flora pleno are very beautiful.

ORNAMENTAL SHRUBS BLOOMING IN JUNE.

Purple-Leaved Berberry.—This shrub is beautiful in foliage, flowers and fruit.

Calycanthus, or Sweet-scented Shrub is more noted for its fragrance and beauty of foliage than for flowers.

Deutzias.—There are many varieties of this shrub, all attractive, from which we select the following :

D. Crenata, flora pleno.—Many consider this the finest shrub cultivated. Flowers double, white, tinged with rose.

D. Rough-leaved (scabra).—A strong grower, bearing very freely, single, white flowers.

D. Slender-branched (gracilis).—A slender, dwarf grower, but bears in great profusion, single, pure white flowers.

Syringa, or Mock Orange (Philadelphus).—The merits of the numerous varieties of this shrub are well represented in the Garland (coronarius), a variety with pure white, intensely fragrant flowers.

Viburnum (Snow-ball).—A familiar shrub, with large, globular clusters of white flowers, resembling snow-balls.

Weigela.—There are now some fifteen or sixteen varieties of this hardy, vigorous, free blooming shrub on nurserymen's catalogues, among which we note :

W. Alba.—Flowers white, changing to a faint blush.

W. Arborea Grandiflora.—Very large foliage, flowers pale yellow, changing to pale rose.

W. Rose-Colored (rosea).—A very profuse bloomer—flowers rose-colored, gradually fading to pale pink.

W. Variegated-Leaved—Bright pink flowers—leaves bordered with yellowish white.

We have named here twenty-six shrubs blossoming during the months of April, May and June, from which the reader can make selections that would render the grounds surrounding his home beautiful, attractive and fragrant.

Notes from Foreign Journals.

The *Garden* says the white *Spiræa ariæfolia* is the most beautiful hardy shrub now in flower in the gardens around London. "Its elegant flowers seen among our common shrubs, seem like tossed spray on a sunny sea."

One of the finest flowers of the season is the *Dicentra chrysantha*, a herbaceous plant, which is hardy and covered with golden yellow flowers, that contrast beautifully with its glaucous green foliage.

A hyacinth, the *Hyacinthus candicans*, lately introduced into England from South Africa, bears a flower stem nearly three feet high, decorated with a score of massive, pure white pendent bells.

The *Revue Horticole* commends seven varieties of the Maple from Japan, which have been introduced and found perfectly hardy in the vicinity of Paris. The beauty and elegance of the Japanese trees are beyond description.

Rose Show.—William Paul, of London, the famous rose grower, sent three thousand rose plants in pots, and in bloom, to an exhibition he got up of his own during the last week in May. The "lion" among the roses, was the new one named Princess Beatrice, a variety which it is said will take a high place with exhibitors on account of its fine form and great substance—not bad qualities in a princess.

Bignonia Chamberlainii.

A correspondent of the *Virginia Farmer* indorses a species of the trumpet creeper which is little known :

"The *Bignonia Chamberlainii*, just in bloom with me now, is a large trumpet-shaped flower, bright yellow, showing off to advantage on its fine glossy foliage. This is deciduous, but in other respects the vine is similar in habit with the cross vine (*B. Capreolata*), but more refined in its appearance. As it is of tropical origin, I planted it (last year) so as to be sheltered from the north wind, hardly expecting it to withstand the repeated severe frosts. It proved, however, perfectly hardy, only the tips of the young shoots having been frost bitten. This is decidedly one of the handsomest climbers, and the only one producing clusters of the most brilliant golden yellow. A great acquisition."

The editor of the *Farmer*, in a note upon this plant, says :

"Some years ago our lamented friend Mr. Wm. N. White, of Athens, sent us this plant with a note, stating it to be an unnamed species originated by Dr. Ward, from seeds sent to him from Brazil. In Athens, where it was planted against a wall, it proved half hardy. We are happy to see it succeed so well here. Another report from Middle Georgia states that a plant set out some four years ago has produced for the past two years an immense mass of flowers, which formed a most brilliant sight. When our plant first produced flowers, we recognized an old acquaintance of European greenhouses, though now-a-days it is seldom met with."

Bedding Plants.

N. Ohmer, at the meeting of the Mont. Horticultural Society, spoke of the necessity of thorough cultivation in preparation for bedding plants. The beds should be spaded deeply, and if thrown out deep enough, had found that to fill in broken

pieces of stones and brickbats in the bottom to assist in drainage, was followed with good results. The soil should be made rich, with well rotted manure. He grows only one kind of plants in the same bed, as the effect is much better than when planted promiscuously. He mulches carefully, and especially so for roses. The best mulch is made from well rotted cornstalks, hops and leaves. This he piles around his roses late in the fall, covering the base of the plant well; in the spring the mulch is leveled down and spread over the bed to the depth of two inches. He also practices planting spring flowering bulbs among his roses. The bulbs come and flower and are ready to disappear by the time the roses are ready to bloom.

Mr. Steele—Among the different varieties of Geraniums, the scarlet is the best for bedding purposes and continuous blooming.

J. H. W. Mumma—Spoke of the importance of mulching flower beds.

Wm. Langstreth cautioned members against the use of any except well fermented or decomposed mulches. Hops, saw-dust and the like, unless in good condition, will ferment in the beds and burn up the plants.

Mr. Kiersted inquired which of the mulches were freest from objection on account of color.

N. Ohmer replied that any of the mulches spoken of, if in the proper condition for use, would be dark colored and unobjectionable.

R. P. Brown remarked, that to succeed best in growing flowers, but few varieties should be used. A good bed of Verbenas, one of Petunias, Geraniums and Heliotropes, is much more satisfactory than an attempt at a great variety.

Powdered Coal for Unhealthy Plants.

In a communication addressed to the *Revue Horticole*, the writer states that he purchased a very fine Rose bush, full of buds, and after anxiously awaiting their maturing, was greatly disappointed when this took place to find the flowers small, insignificant in appearance, and of a dull, faded color. Incited by the suggestion of a friend, he then tried the experiment of filling in the top of the pot around the bush to the depth of half an inch with finely pulverized stone-coal. In the course of a few days he was astonished at seeing the roses assume a beautiful red hue, as brilliant and lively as he could desire.

He tried the same experiment upon a pot of Petunias, and soon after all the pale and indefinite colored ones became of a bright red or lilac, and the white Petunias were variegated with beautiful red stripes. Some of the lilac Petunias became a fine dark blue. Other flowers experienced similar alterations; those of a yellow color alone remained insensible to the influence of the coal.

Sowing Lily Seeds.

A correspondent of the *Country Gentleman*, in writing upon sowing lily seeds, says:

As a hybridizer, I have occasion to make frequent sowings of lily seed, and no means which I have ever employed for promoting its timely germination has availed me much. My present practice is to sow the seeds as soon as ripe in frames, or in the open ground, in boxes with open bottoms, across which a few laths are nailed. The boxes being plunged in the soil, these laths prevent their being thrown out by the frost, allow the moisture to rise from below, thus obviating the necessity of

watering, which is liable in this instance to do more injury than good, permit the roots to feed in the fertile soil placed under the boxes, and hold in place the soil in the boxes, if it is ever necessary to move them. The frames or boxes are supplied with light sandy soil, with which leaf mould or peat has been freely mixed. Though a few plants may appear during the next Summer after sowing, I do not look for the seed to start till the second Spring, eighteen or twenty months after sowing. The little bulbs should remain undisturbed two years or more.

Night-Blooming Cereus.

A magnificent specimen of the night-blooming *Cereus*, was exhibited in all its beauty at Edgar Sanders' greenhouses at Lake View, near Chicago, lately. At eight o'clock one flower opened, and subsequently two more. They remained open for only eight hours and then closed. Mr. Sanders kept open house for the convenience of all who desired to see and enjoy the fragrance of the beautiful plant.

Brackets for Plants.

Some plants look so well against the wall of a greenhouse or conservatory that it is a wonder brackets are not in more general use than they are. It is not necessary that they should be so elaborate as that which supports the fine-leaved *Begonia*; this is of course a matter to be determined according to individual taste and means. For growing plants in, the least ornamental form is just as good as any other. The simplest kind of bracket that I ever saw was a flower-pot with one side flattened, and having a hole near the top of the flat side, so that it might hang upon a nail in the wall. Some years ago I remember seeing a collection of Ferns grow against the wall of a greenhouse in these flat-sided pots, which were hanging thickly all over the wall; and the effect of the drooping fronds, which in many instances quite hid the pots, was exceedingly pretty. I see no reason why *Mesembryanthemums* should not be grown in such pots, by which means the wall of a conservatory might be covered with their blooms; and those who would like to see ribbon beds executed upon a wall, might be able with this genus alone to produce some curious effects. Wall gardening, in short, is a subject to which, as yet, little attention has been paid; but if well carried out it would doubtless be productive of the very best results.—*W. T. in Garden.*

A Floral Ornament for the Drawing-Room.

Last August a lady friend of mine gathered a handful of the world-renowned flowers of forget-me-not, *Myosotis palustris*, and to preserve them as long a period as possible they were put in a large soup-plate filled with rain-water. The flowers were placed near the window, so as to enjoy the advantages resulting from an abundance of light and air, and the water was replenished when needful. In a surprisingly short space of time—three weeks, I believe—white thread-like roots were emitted from the portion of the flower-stalks in the water, and they ultimately formed a thick net-work over the plate. The flowers remained quite fresh, excepting a few of the most advanced when gathered, and, as soon as the roots began to run in the water, the buds began to expand, to take the place of those which faded, and up to the middle of November the bouquet—if it may be so called—was a dense mass of flowers, and a more beautiful or chaste

ornament for the indoor apartment cannot be imagined.—*Thomas W. Trussler, in "Gardeners' Magazine."*

Sweet Scented Flowers.

Many cultivators of ornamental plants desire especially to raise those which produce fragrant odor, particularly for bouquets, stands and flower vases. In answer to occasional inquiries, we name the following sweet scented flowers, to which some of our readers may add others: Sweet violet, hyacinth, heliotrope, pinks, sweet-scented candytuft, woodbine, sweet brier, cabbage rose, tea roses, white lily, sweet alyssum, mignonette, sweet pea, carnation, sweet William, and several sweet scented, perpetual roses. Here are enough to fill a room or garden with perfumes rivaling the "odors from the spicy shores of Araby the blest," if well managed and cultivated.—*Country Gentleman.*

Artemisia Stellaris.

Edgar Sanders says that this is likely to come into pretty general use for ribbon work, or bordering to other plants

Although not so fine as the *Centaurea Candidissima*, it is far easier propagated, hence can be sold cheaper, indeed as cheap as any bedding plant, providing there is demand enough to grow it in quantity, which we think after a time there will be.

To those who grow their own plants, we say, go into this if you want quantity, as it roots as ready as a *Verbena*, and furnishes an abundance of shoots to cut from.

It bears the knife well in summer, hence can be kept to any height desired below its natural growth, which does not exceed nine inches or a foot high.

The leaves have a very fair silvery shade, more so than the old dusty miller, and as it is of a trailing nature if left alone, answers well for planting in hanging baskets, vases, etc., forming a pretty contrast to other foliage.

Hydrangea Paniculata.

EDITOR OF HORTICULTURIST—In your journal for June, page 184, you ask who is growing *Hydrangea Paniculata*, etc., from which I infer that you have not seen the flower. I send you a panicle that you may judge for yourself whether it justifies all that has been said of it. Imagine fifty to a hundred and over of this on a single bush, and I think you will conclude that it is one of the finest shrubs "of recent introduction." How high it will grow I cannot add, as with me it has had to pay tribute in another direction. It is truly a magnificent shrub for lawn decoration, and remains longer in bloom than anything I know of in the line.

Stelton Nurseries, N. J.

G. W. THOMPSON.

Double Flowers—The Ten Weeks Stock.

In an invoice of tree and other seeds which I imported from Peter Smith, of Hamburg, some three years ago, was a lot of ten weeks stock. I planted a sample of the several varieties; a large proportion of them came single. This spring I scattered the balance (from the same packages) in a box in the greenhouse, hardly expecting it to grow. The blooms are nearly all double. Is this an ordinary occurrence? I do not remember having seen it so stated.

G. W. T.

New Brunswick, N. J.



The Codling Moth—Cloth Bands.

BY DR. JAMES WEED, MUSCATINE, IOWA.

MORE than thirty years ago, three town lots here were planted to apple, pear and plum trees. Most of them were large trees, and soon commenced bearing, and for a few years no signs of the codling moth were seen, but after their first appearance, not more than three or four years had elapsed before not an apple or a pear could be found that was not worm-eaten.

Speculatively we queried whether every apple in the large orchard we were then planting would, in the future, become infested with this destructive apple-worm, as in the garden. Practically we are now able to say that up to this time, though in some seasons its depredations have been fearfully prevalent, diminishing the value of the crop very greatly, still we have always had a portion of the crop fair and unblemished. On this fact we base our hopes and muster courage to attack this enemy; for if there are not moths enough to deposit an egg in every apple, then every female moth destroyed will add two hundred apples to the whole number of sound ones, assuming that each moth lays two hundred eggs.

In 1868 we hit upon the use of our narrow cloth band (one or two inches wide, nailed to the tree at one end with an 8 oz. tack, the other end being brought around the tree and hitched upon the nail, so as to be easily unhitched and examined at intervals of ten days, or two weeks, the worms being destroyed with a knife as they appear in opening the band), which was applied to only a part of our trees, but with encouraging results. The summer of 1869 had so many rainy days that work fell behind so that we were unable to scrape the scales of old bark from our trees and put on the bands. In 1870 we put them upon most of the trees bearing fruit about the middle of June, and, as we have before stated, destroyed about 15,000 worms and pupæ. We think it was in the autumn of this year that we saw the first notice in print of the use of cloth bands—being, as described, five to ten inches wide and two or three times around the tree, fastened with a string—worms to be killed by taking off the bandages and immersing in hot water, or putting them through a clothes-wringer. In 1871 we effected a like wholesale slaughter with the general application of the narrow bands, experimenting with different materials. Old carpets being not always at hand, old bale-cloth being too loose and open, and new cloth too expensive, strips of old paper flour-sacks answered well; and this year we are trying strong roofing paper, which is cheap and promises to answer the purpose very well.

We are also trying tarred, felt and oiled paper, which, if not repulsive to the worms, will be about as cheap and more durable, answering for several years. Fifteen thousand apples must have been required in 1870 to breed the worms we killed under the bands, as it is seldom that more than one worm is found in an apple, and allowing 300 to a bushel, gives 50 bushels damaged or entirely ruined by these worms; and if we only captured one-half the worms in the orchard, the loss is increased to 100 bushels. Supposing one-half the worms destroyed to have been females, and one-half of these to have been of the first brood, they would have deposited in the late apples 750,000 eggs, thus damaging 2,750 bushels of the autumn and winter apples. Now suppose these eggs to have produced as many worms, and all to have passed the winter safely, they would, in the spring of 1871, have aggregated with the 7,500 of the late brood destroyed under the bands, 757,500 moths; but a large proportion of the late brood are destroyed in cider-making and other uses the apple is put to, and their number is also greatly lessened by birds, and often, perhaps, by the vicissitudes and inclemency of winter.

If a small crop of apples on 10,000 trees be estimated at one bushel per tree, or 3,000,000 of apples, it would require 15,000 female moths to deposit an egg in each one; of course a larger crop of ten bushels per tree would require 150,000 moths, but as, in our experience up to this time, they have never infested the entire crop, and as no more moths can exist in the spring than were bred in the previous crop, and have safely passed the winter, it is evident that the larger crop would have more than nine times more sound apples than the whole amount of the smaller crop.

If the large orchardist puts into constant practice a system of wholesale destruction, like the bands we use, it would seem that the moths coming from the small orchards in his vicinity could not cause him very great injury, but woe to the owner of 50 trees in the immediate vicinity of the mammoth plantation, if the latter is persistently neglected.



FRUIT IN NORTHERN IOWA.—Nursery trees were somewhat damaged in this section the past winter. Wagoner's and Sweet June killed back; even Ben Davis one year old trees killed, but not to any very great extent. Orchard trees suffered considerable, many of the tenderer varieties damaged to such an extent that they will never recover. Trees were covered with bloom in the spring, but the bloom faded and left but few apples. Strawberries are almost an entire failure—Peak's Emperor, Downer, Agriculturist and Lennig's White killed entirely. Grape vines killed in some places in very sandy land; on clay land vines are looking splendid, and bid fair for a very heavy crop. Raspberries went through the winter with material damage; Davidson's Thornless and Clark slightly killed back; yet the bushes are loaded with fruit. The Philadelphia is one mass of green fruit and blossoms. Plums, a fair crop.

E. M. NEVINS.

Nashua, Chickasaw Co., Iowa.

Failure of the Apple, Pear and Cherry in the West, 1872—Causes.

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

PERHAPS no season since the settlement of the country west of the Mississippi, has combined a greater number of casualties to the fruit crop, than those brought to bear during the years of 1871 and '72. This is, especially, the case in Kansas and Missouri, and wherever the excessive rains of last November prevailed. The early portion of the growing season of 1871 was quite wet, continuing up to early August, causing the earlier ripening peaches to rot and fall from the tree, while the dryness which then came on, attended by extreme heat, caused the flesh of the later ripening ones to cleave to the seed, and thus become worthless. In this way the peach crop, which would otherwise have been abundant and fine, proved to be an almost entire failure. But the months of September and October were dry and of usual temperature, producing a fine effect upon the wood and fruit buds, toward ripening them for the next crop. Unfortunately, however, for our prospects for an abundant crop the next season, rain set in the early part of November, saturating the earth more thoroughly than it had been at any time during the preceding spring or summer. The young wood and fruit buds, which had, until this unusual wet weather, given such promise for the future, were filled with thin watery sap, which could not possibly, so late in the season, get into condition to meet *even* the ordinary approaches of the coming winter. In the above condition were the wood and fruit buds found, on the 19th of November, when the mercury suddenly ran down from 52 to 22 degrees above zero, and on the 22d of the month, down to 10, and on the 29th, to 3 degrees. At no time, with eleven exceptions, from the 19th of November to the last of March, did the mercury at sunrise, get above the freezing point. It was four times *below* zero.

In the above cases, the young wood and fruit buds, and the range of the mercury, were in direct antagonism to each other. What condition of things followed these conditions of the weather? One very remarkable condition of the trees followed, and was, very clearly, the result of these remarkable conditions of wood and weather, which was, the leaves, instead of being cast off, as they would have been from well ripened wood, remained attached to the trees, in such remarkable quantities, as to attract the notice of all observing fruit growers. While the dryness of the leaves caused them to be blown off by the winter's winds, the leaf stalks, in countless quantities, clung fast to the wood, until, in numerous instances, they were pushed off in the spring by the young growth. Peach trees were an exception to this general clinging of the leaves.

In consequence of the foregoing conditions of weather, of unripened young wood, of fruit buds, and of unusual attachment of the leaves during winter, we think we might very reasonably look, or at least account for the partial failure which has befallen the fruit crop the present season. A great number of trees, especially the apple and the pear, displayed a great diversity of diseased conditions at the blooming

time. Some trees showed no bloom at all, others showed but little, while others showed a sufficient quantity, but in many instances of sickly appearance. In many cases the blossoms seemed to be abortive, either in pistil or pollen; perhaps both. Those that set fruit, commence an untimely casting off at a very early day. Some trees casting off nearly or quite all they set. Those having a usual amount of bloom have, in many instances, cast off until the whole amount of the apples and pears left will not amount to more than a fourth of a crop, after the curculio and codlin moth have finished their work. Wherever these November rains and freezes prevailed, as far as we can learn, these disastrous results have followed, and are still operating up to this time of writing, July 10, 1872.

There are other consequences growing out of these November rains and freezes, which are results equally as clear, at least to our mind, as the partial failure of the apple and pear crop. A great many of the young twigs of the Angers Quince have blighted this spring, so soon as the sun got hot enough to have a telling influence upon sickly young wood. The young twigs of the apple also have shown considerable blight. So soon as the weather got sufficiently hot to act upon diseased wood, the young wood of many varieties of the apple, never heretofore affected, were badly blighted in June, and still continue to a considerable extent. We have also had blight in three varieties of pear trees, a thing which has never before happened on our place. The Stevens Genesee, the English Jargonel, and one, the name of which we do not know, have blighted this summer; the first quite freely; we think not dangerously, however, among our apples; varieties have blighted this year, which were never before affected, while those which blighted badly in previous seasons, have this season suffered but little; some of them not at all. If the connection between the rains, the condition of the young wood, the fruit buds, and the freezing of last November, furnish a clue to the failure of the fruit crop this summer—which we think they most clearly do—upon what principle are we to account for the blight, now, to some extent prevailing? We hold that all are inseparably connected as cause and effect.

The foregoing results cannot be justly attributed to the intense and long continued cold of the winter, for the peach buds, the most tender of all our hardy fruit buds, went through the winter all right. Besides, the mercury did not sink below zero but four times during the winter, and the lowest of these was, with me, five degrees. The results must then depend upon the condition in which the wood was found at the November freezing. The facts given above are notorious throughout the country. The conclusions are ours, and are worth just what any one may choose to give for them.

Since the above was written, we have seen a notice in the *St. Louis Republican* stating, that the apple and the peach crop in Missouri would be more abundant this year than for many years previous. There is certainly some mistake about the apple crop. The *Republican* admits a failure of the pear crop, and attributes the failure to *blight*. The failure of the pear crop was manifest long before the blight made its appearance. Indeed, the pear blight has not been so prevalent this season as it has been upon many other occasions.

Wine Making—Essentials of a Wine Grape.

BY DR. J. STAYMAN, LEAVENWORTH, KANSAS.

IN the manufacture of wine, like every other art, there are certain conditions to be observed if we expect to succeed. The most important of these are a proper proportion of sugar and acid in the grape, for without these no good wine can be made. This proportion has been very definitely determined by numerous experiments in testing the best wines made from sound grapes grown in the best seasons. Dr. Gall, a distinguished author, in his "Practical Guide for Wine Making," etc., has thrown more light upon this subject than perhaps any other writer. He says, "that wines, without exception, to be good, and of agreeable taste, must contain from four and a half to seven thousandths part of free acid." "In all circumstances, however, a little less acid than six and a half thousandths is better than a little over seven thousandths, and a little more than twenty-four per cent. better than a little less than twenty per cent. of sugar."

Although he has given the approximate proportions found in the best European wines, yet it is a sad mistake to think that the grapes which contain the greatest amount of sugar, as the Delaware and Norton's Virginia, will make the best wine, for neither equal the wine made from the thoroughly ripened Catawba which contains less sugar, yet it is considered the highest type of American wine. This fact is also admitted by Dr. Gall, who says: "It is at the present time conceded that the quality of wine generally depends not so much on a definite amount of alcohol (the proportion of sugar in the must), as on a certain moderate quantity of acid." But it should, however, be remembered that we cannot reduce or neutralize the excess of acid in our wines by the addition of sugar, neither can we increase their strength over twelve per cent. without the addition of alcohol. So all the acid, or whatever sugar over twenty-five per cent. is in our must, will remain as such in our wines, because they are not changed or decomposed by the vinous fermentation. Then this being the case, thoroughly ripened grapes will make the best wine, for as the sugar increases one per cent. by the grapes ripening, the acid diminishes about one-twentieth per cent. Therefore, facts and experience teach us that perfectly ripe grapes contain everything in the right proportion which are requisite to make the very best wines without any additions or alterations whatever. With these few introductory remarks upon the general principles of wine making, we shall now give the practical part:

If you have much wine to make, it is best to use large, strong casks, as it ferments better in large bodies, but if you have only a few hundred gallons to make, common, clean, sound barrels will do. Pick your grapes when ripe and only in dry weather, and when the dew is off, and as many at one time as will fill a cask; pick off all the decayed or green berries. If you wish to make white wine of your Concord in quantities of a barrel or less, run your grapes through a common hand cider mill, and press immediately until the must begins to color, then remove the half-pressed grapes and put them into an open barrel, and so continue mashing and pressing until your cask is full of must. The half-pressed grapes or mash in the open barrel should be covered with a blanket and left to remain from 24 to 48 hours

to ferment, according to the state of the weather, then thoroughly pressed and put into a separate cask to make red wine. If large quantities are made into white wine, the grapes may be put under a strong press without mashing, and pressed. Many black grapes can be made into white wine in this manner. It would be better to put some of the grape seed or raked stems into the must when fermenting, which would give the white wine more tannin.

If red wine is to be made, run the grapes through the mill and put them into open barrels or hogsheads, and let them ferment about two days before pressing; of course they should be covered over while fermenting. Fill your casks not quite full, and let them ferment over, which will cast off much unnecessary matter, but when the first violent fermentation is over, let the balance of the sediment settle in the barrel and not work over; place a sack of sand over the bung hole, or place the bung in slightly to keep out unnecessary air or foreign matter. As soon as it is done working (which can be easily told by placing your ear to the bung), drive the bung tight and let it remain until clear weather in December, then rack off. To produce a perfect fermentation, the temperature of the room should be kept up to the temperature of the must while it is working, but after it is done the temperature of a good cellar is the best. The casks should be kept full and the bungs air-tight. The second racking should take place in March, and if everything has been properly done and the grapes good, the wine will be clear, but it should not be bottled until the next fall, and then it is fit to sell. By the "air treatment" it is claimed to be fit to bottle or sell in a few months after the fermentation, but this we have not seen tried, and it has not come into general use, however good it may be.

As some may wish to make unfermented wine, we will give a few directions to show you how to do it. Press your grapes and let the must stand about six hours to settle some. Then draw off the clear, and heat it to about the boiling point and skim it. Then put it into wine bottles hot as you put up fruit, and seal it tight while hot, and keep it in a cellar. To put up the wine hot without breaking the bottles, fold a cloth several layers thick and wet it, and set the bottles on it while filling them with the hot wine.



About the Fig—Its Fecundation.

BY B. J. STAUFFER, LANCASTER, PA.

I WAS interested in the expression of the thoughts and suggestions of the editor of the *Plantation*, p. 116, as also in the account given by the letter written from Smyrna, p. 143, current volume of the *Pomologist*, about figs. And this opens a disputed question. The writer after informing us about the drying, packing and piling up the packed figs, says: "In two or three weeks afterward, the *fig worm* comes out—one out of every fig." The italics are mine. He continues: "A little white creature, who leaves his web behind him everywhere he goes, and he goes everywhere; into every crevice of wood-work or metal," etc., giving a graphic account of

the annoyance from a cargo of figs on shipboard, by these *fig worms*. This being so, it would seem that those who affirm that it was absolutely necessary that the intervention of an insect, or the artificial action of a straw was necessary to fecundate the fig, may not be mistaken after all. What is termed caprification, a fertilization of flowers by the aid of insects, a process which is thus stated by several writers: "It is performed by suspending by threads, above the cultivated figs, branches of the wild fig, which are full of a species of cynips. When the insect has become winged, it quits the wild figs and penetrates the cultivated ones." Some naturalists are of opinion that caprification is a very unnecessary process. Oliver terms it a "tribute which man pays to ignorance and prejudice." In many countries of the Levant he says it is not performed, nor is it done in France, Italy or Spain.

We must bear in mind, that the structure of the fig and its inflorescence is the reverse of ordinary fruit. The flowers are very small, unisexual, contained in great numbers in a common receptacle, which is fleshy on the outside, connivent at the summit, where it is almost closed by a series of little teeth; and the fact that the male or staminate flowers occupy the upper part of this receptacle in the interior of the fig, and the pistillate or female, which are the most numerous, occupy the bottom, and all the remaining part of the cavity; each ovary becomes a seed, surrounded with a pulp, which, together with the receptacle, forms the fruit. It is also stated that the greatest part of the flowers prove abortive, both with and without the process of caprification.

But, a Smyrna letter-writer, says: "The worms come out—one out of every fig"—where do they come from? This can only be explained on the old notion (revived in later years), that a fly, a species of cynips, seeks its food by making its way through the upper portion of the open center, and in crowding down, carries the pollen with it, reveling in the juices, and depositing its egg—the puncture and hatching and feeding of the worm may tend to hasten in some degree the maturation of the fruit—while it is claimed on one side that it is essential to ensure fructification by dispersing the pollen, others deny, and declare that fecundation itself was not indispensably requisite to the swelling and ripening of figs. So, when the doctors disagree, and you have not the means at hand to test the matter for yourself, you must necessarily be in doubt. That the fig worm is the larva of a *cynips* or allied insect, there is no question, and if every fig has its worm, then it is evident that every fig was visited by the fly. He does not, nor will any one suppose, the worm came without an egg, or that the egg is a spontaneous growth in the fig without a parent. Hence, if the Smyrna writer is correct, the matter is settled. We know of several species of larvæ that leave their nidus to spin a cocoon and seek to enter a crevice to web up in, and undergo the final change to the perfect image. I notice in Thompson's Dictionary, that he says: "Figs when ripe, are, for the most part, dried in ovens to preserve them," and then packed very closely in the chests, drums and baskets. Another says, that in the South of France they dip the fruit in scalding hot lie, made from the ashes of the fig tree, and dried in the sun. The species grown in the Southern States are derived from the Levant, the *Ficus carica*—leaves 3-5-lobed—and no doubt could be made a profitable crop by judicious culture, as well as in Turkey.

The European Larch—Its Durability.

BY G. B. B. DENMARK, IOWA.

EDITOR WESTERN HORTICULTURIST:—I notice in the May number of the *Pomologist* an article from Prof. Mathews, on the European Larch, and as I have had a similar experience to his with this much lauded tree, I give it to you for what it is worth. Although our experience is the same, I do not arrive at the same conclusion that the Professor does, with regard to the durability of the timber, for I do not consider my experience a fair test in the case, neither do I believe all that is said in favor of the larch. There is no doubt but what the heart-wood will last a long time, but it will not do to say that the small twigs (which is nothing but sap wood) will last for years, when we know they will decay in one.

In the Spring of 1860, I imported a lot of European Larch from Scotland, and set them out in nursery rows two feet apart, intending to transplant them in a year or two, but leaving home next season and being gone several years, the larch grew up a perfect thicket, twelve to fifteen feet high. In 1867, on reading some of the fabulous accounts of the durability of the larch, and wishing for some vineyard stakes, I concluded to cut down my beautiful grove or thicket of larch and use them for that purpose, thinking I had got something that would last a life time; but lo! I was sadly disappointed, for only two years afterwards I found the stakes beginning to break off and decayed near the surface of the ground, so I concluded that the best use I could put them to, would be to burn them for stove wood; but here I was again disappointed, for I found that it required more kindling wood to get them on fire than they were worth. Since then I have seen it stated that in Europe it was considered almost fire-proof and was used for the decks of vessels on that account. Now, if it contains such an amount of resinous matter as some say it does, why will it not burn? That it does not contain much resinous matter grown in this country is certain, but that it is not durable on that account does not necessarily follow, for we find the red cedar, the most durable of all wood, contains little or none of this property. We also find that the sap wood of the red cedar decays very easily, and that it is the heart-wood that lasts so long. So I think we shall find it the same with the larch, and we should not be too hasty in condemning it, judging from the experiment we have made with nothing but saplings, only three or four inches in diameter.

I think if Professor Mathews will examine the poles he has used for stakes, that he will find that they are nothing but sap wood, and in order to arrive at some positive proof in this important case, I hope the Professor will cut down some of his largest trees and use the heart-wood, and then give us the results. By so doing he will confer a great benefit upon thousands who are now looking to the larch for a lasting timber tree. And here let me say, that I think that it is the province of our Agricultural College to experiment upon and decide just such questions as these. As the question now stands with regard to the larch grown in this country, it is certain that the poles or saplings are not durable, and the next thing to be decided is, whether *any* of the wood is durable or not. Until this is decided, I think we had better go rather slow in planting this tree, or at least, in recommending it for its durability.

Adaptation of Fruits to Localities.

OUR climate is so diversified from the effects of ocean winds in some localities, and extreme altitude in others, that no other State of the Union can ever attain to the production of that infinite variety of the vegetable kingdom that pertains to California. The proper adaptation of fruits and vegetables to localities the most congenial to their perfect development and maturity, is here a subject of the first importance to the pomologist and horticulturist.

Our southern valleys are very nearly tropical, producing the orange, lemon, pomogranate, and the olive; the more central or middle valleys, half tropical, or with all the summer heat of the extreme south, but liable to occasional light frosts during the winter and early spring months; whilst in the extreme north, we have the New England winter, with all its fitful antics of cloud, rain, snow and sunshine commingled, and yet a summer of great heat.

Effects of Altitude.

But it is not altogether our great latitudinal extent that gives us our wonderful variety of climates, with all their diversified and apparently anomalous productions. Altitude above the sea, plays its freaks upon the vegetation in so remarkable a manner, as to set at naught all our preconceived notions that altitude, north or south, must govern us in our choice of localities, for the successful propagation of the particular products we may have resolved to engage in.

Take the proper altitude, and the fruits of the Atlantic States are the same fruits here; but grow the autumn apples of the east in our lower valleys, and they are simply summer fruits, whilst the Newtown pippin, Baldwin and Roxbury russet, their latest keeping winter apples, are found ripening with us in early or mid-winter.

Thus whilst one orchardist is growing these and other fruits in the valleys for autumn use, another whose home is in the mountains, in some elevated valley, or on a plateau of the foothills, is growing precisely the same fruits for winter and spring use, and yet within fifty miles of each other.

The wild strawberry ripens in the vicinity of San Francisco, under the cool ocean breeze, in April and May; the same variety, in Strawberry Valley and other valleys in the vicinity of Lake Tahoe, from the first to the middle of August.

The Reverse of Altitude.

Wild plums and apricots, ripening upon the mountain plateaus, where they are indigenous, if brought to the tropical warmth of the lower valleys, are found to have their fruiting season hastened nearly six weeks, but with no improvement in flavor, though somewhat increased in size. The same effect of early maturity upon the blackberry and other mountain products are observable when transferred to the warmer lower valleys.

With these facts as data, the fruit grower can choose his locality, with reference to the kinds and qualities of the fruits he would produce, with much certainty, and no time need be lost in testing or experimenting with localities.—*Rural Pacific Press*,

To Develop Cauliflowers.

D. BURY, in *Field*, says: "There are one or two simple means of bringing out the best qualities of the cauliflower that may be worth nothing here. It is needless to dwell upon the desirability of placing the crop in rich, deep, sweet soil. There are few plants that take more out of the ground in a given time than cauliflower; hence the obvious necessity of storing it well; for a stoppage of growth arising from a scarcity of food or any other cause is simply ruin—that is, bitterness, hardness, worthlessness—to this most valuable crop. But it is of surface help that I now write. The first and best is a surface layer of fine barnyard manure six inches thick over the whole of the ground occupied by the cauliflower, or, if this is impracticable, then half a barrow load to every five plants when the hand lights are lifted or taken off.

The effect of such dressing is wonderful; one can almost see the plants grow. The leaves seem to drink in the volatile ammonia, and the roots soon find their way into this new surface larder; the crowns fill in and swell out with amazing rapidity; and this dispatch is the great secret of high quality. There is another way of aiding and quickening growth, especially during dry weather. Lay the mulching of dung on as before, and wash it down with house sewage. This last is also a great service by itself, and for pouring over spent hotbed manure, leaves or other matters that have little strength of themselves. These mulchings are useful to keep out the drouth and encourage the roots upwards. The sewage will feed this well, and it seems to be absorbed and converted with wonderful rapidity by this crop. No one who values sweet and crisp cauliflower should waste a drop of sewage; it is one of the most powerful and best of manures for this crop. If sewage is not come-at-able—although with proper arrangements it is accessible everywhere—any kind of liquid manure will answer the same purpose. None should be dropped on the leaves, and of course no one would allow any sort of manure water to wet the hearts of the plants.

There is one more feature about this crop that deserves a passing notice. As a rule, as soon as cauliflowers are cut, the stems are pulled up and thrown away. With early, highly fed plants, this is a great and reckless sacrifice of growing force. Plants treated as I have recommended have roots like trees—huge masses filling the soil in all directions. Why should these not be pressed into the production of a second crop? To this end, simply cut the cauliflower with the usual complement of overlapping leaves; leave all the other leaves on the stem for a week or two. By that time most of the stems will have broken into from three to six shoots. Go over them and choose from two to four of the best placed and strongest; three to each is a capital average. Remove or bend down any leaves that interfere with these advancing growth, and also any decaying or old worn-out leaves; allow all others to remain. Give the stems several good soakings of manure water, and another layer of dung if thought desirable; and in an amazingly short period of time another crop, perhaps as heavy—or heavier in the gross—as the first, may be cut from the old stalks. After having done this double service, away with them, and see that the ground is immediately deep trenched or manured for strawberries, or some crop as different as may be from cauliflowers, of which, notwithstanding all our feeding, it will have had enough for a year or two."

How Can I Settle the Wine?

I HAVE a jug holding two to three gallons of Concord grape wine, made last fall; it is the pure juice of the grape, thoroughly ripened, with three pounds of white coffee sugar added per gallon. To the taste the wine is very fine, but it is about as turbid now as when made. How can it be made clear? May it be drawn off into bottles without detriment to the quality? "NOVICE," *Council Bluffs, Iowa.*

REMARKS.—Our knowledge of wine-making being very limited, the above queries were referred to our old associate, Dr. J. Stayman, who says in reply:

We now say that your wine was not properly made, for if your Concord grapes were, as you say, "thoroughly ripened," the must should have contained about eighteen per cent of sugar, which, when fermented, would have given nine per cent of alcohol, which is sufficient to make a good wine. Under those conditions, it was unnecessary to add any more sugar to your must unless you wished to make it stronger in alcohol, which was inexpedient. The adding of three pounds of sugar to the gallon of must, was twenty-one per cent more than could be fermented, so your wine now holds, in solution, over two pounds and a half of sugar to the gallon, which, from its nature, holds, in solution, a part of the lees of the wine, which makes the wine turbid or cloudy, as sugar or gum added to ink keeps it from settling. The only remedy you now have left to make a passable wine out of yours is, to add an equal amount of pure water to it and let it ferment again and convert the balance of sugar into alcohol; then it ought to become clear.

Or, a better plan would be, to wait until your Concord grapes are ripe, then mash up a sufficient quantity of the grapes to make ten times as much must as you have wine, then add your wine to the mash and stir it up well and let it remain three days, then press out and let it work without the addition of either sugar or water. Then, after it is done working, bung up tight and let it remain until February, then rack off, then bung up again; if not clear, rack again last of March or beginning of April. Then it should stand well filled up until the next fall before bottling. Wine should always be clear before it is bottled, and then it will remain so; if cloudy, it will not be as good bottled as in the cask.

You can, if you wish, bottle your wine as it is, without any detriment, but we do not think it would improve it much. And to those who prefer wine so strong in alcohol and sugar, they might keep it in that way; but we can give you no method to clear it when it is turbid. Wine can be made containing that much alcohol and sugar, and be clear, but not by that method.

ASSOCIATE EDITOR.

FRUIT IN S. E. MINNESOTA.—The apple crop is going to be good in this locality. The orchards here are mostly young—just coming into bearing, but there are a few orchards planted eight or ten years ago that are now bearing full. My own young orchard of Ben Davis and Saxton—four years old only—from the graft, hold a few fine specimens of apples. Of Strawberries we had a good crop. Blackberries and Black Cap Raspberries not heavy. No appearance of apple or pear tree blight as yet.

I. INGMUNDS.

Le Roy, Minn., July 12, 1872.

The Strawberry Sorts and Behavior.

WE are just in the height now of our strawberry season, and I will tell you of the behavior of a few varieties.

Seth Boyden.—Growth strong and healthy, making abundance of runners; fruit not very large, or in any way very desirable.

Green Prolific.—Enormous growth of foliage, of rich dark green color, moderately productive; fruit very soft and not of superior quality.

Wilson.—Fair crop, uneatable.

Russell's Prolific.—A strong grower, very hardy, a great bearer; fruit large, too soft for market, unsurpassed for family use, for it excels all other varieties in its genuine wild strawberry flavor, with just a hint of pineapple; requires to be planted with a staminate variety to give large crops.

President Wilder.—Rather a dwarf grower, requiring rich, moist ground and good culture, foliage healthy; fruit abundant, large, good form, good quality, on rather short weak stalks; fruit firm, and will keep several days, desirable for careful cultivators; will not bear neglect, and fights grass like Green Prolific.

Jucunda.—Foliage and plants will not endure the sun, and is a poor grower and poorer bearer on prairie soil; said to do better on heavy clay.

Brooklyn Scarlet.—After some ten years trial we have concluded to give it up, too poor a grower, seldom bears well, too small; flavor good, and parts readily from the hull, which renders it easily prepared for use.

All kinds seem to have done their best this year, and though late, the crop has been very fine in quality and quantity.

DUDLEY W. ADAMS.

Wauken, Iowa, June 29.

Mountain Ash Root for the Pear.

I HAVE read, with a good deal of interest, the discussion of this question of working the pear upon the European Mountain Ash, between Mr. Wier, Mr. Matthews and others, in the *Pomologist & Gardener*. In one of Mr. Wier's communications he says:

"I had intended only to recommend grafting the pear on sizeable *lateral* roots of the Mountain Ash; I do not, nor cannot recommend working it in any other way on this root; I have not tried top-grafting, therefore know nothing about it—have tried budding on seedlings, and find that some varieties grow finely and make splendid trees; others grow well the first season and die the next; other varieties refuse to grow at all; but when root-grafted on lateral roots, and even very short pieces of roots, all kinds, so far as tried, grow as well as the best apple-root grafts, and make a large growth the first season; and if we so wish it, the trees are all on pear roots at three years of age, by the cion throwing out roots of its own—and what better root can we have for a standard pear tree, than its own natural roots? But I still insist that the Mountain Ash root is a better bottom for the pear than any pear root, on some soils, and especially for the extreme north."

Will Mr. Wier tell us *what* "varieties grow finely and make splendid trees," and to what age such made trees have attained within his observation? Will Mr. Wier also tell us on *what* kind of soils the "Mountain Ash root is a better bottom for the pear than any pear root?"

J. STEIN.

Washington Co., Iowa.



Editorial Notes.

Should Agricultural Journals have Horticultural Departments?

Of course. Why not? The idea of a true American farm paper, now-a-days, is to contain to a greater or less degree every kind of information which pertains to the cultivation of the soil. Horticulture, therefore, forms a very proper department for an agricultural journal. The modern idea of an exclusively horticultural journal is that it shall both be *more* thoroughly devoted to horticultural and rural embellishment, but in *better* and *abler* style. The failure of so many horticultural journals in the past five years is due primarily to want of support, because most who were interested in horticultural topics already took agricultural journals and were satisfied with what information they found in them of this character. They did not need or care to look further. This fact, then, shows how difficult to build up a successful horticultural journal when the field is so bare and this class of readers so difficult to get.

Secondarily. Most horticultural journals failed because of want of the right kind of ability, and lack of *variety* of information. Could we take a horticultural journal and give to it the same variety of contents which are now the *forte* of agricultural newspapers, they would be much more successful; but we suppose they would be criticised as stepping out of their proper field. If it is proper for agricultural journals to have horticultural departments, will it not also be proper for horticultural journals to have other topics introduced? In our opinion the cause of success in our agricultural journals is due, not so much to the interest in agricultural topics alone, as the fact that they take so strong a hold of the *family element*. The main idea of the editor is to have something entertaining to all members of the home circle. Could horticultural journals have the same element, they, too, would have the same success.

Perhaps one reason of the continuous life and public good-will toward THE HORTICULTURIST is due to the *variety* of topics it discusses. It is not fruit alone which fills its pages, but rural architecture, garden decorations, flowers, gardening, and other topics of rustic art.

Our brethren of the agricultural press who are much disposed to judge of the value of a journal by its number of subscribers (the bigger, of course in their opinion the more interesting), must remember that one reason why our horticultural journals are not more successful is because they themselves have stepped over into our field and culled most of our readers away. They should be more charitable. Had we more income we would be better and abler and handsomer than we are. But can you not give us credit for what we try to do? A good and praiseworthy spirit actuates us horticultural editors and writers, and this should secure for us sympathy, not criticism.

The Ives Grape.

In our opinion the Ives promises to be a more valuable grape for an early market than the Concord. Last year, upon our place, it was nearly two weeks ahead of the

Concord in ripening, and is said by the commission dealers to have carried splendidly to market, sold well, and was universally liked. Everything depends upon the location of the grower. If he is south of his market, early grapes will pay better than late ones: if north of his market, late grapes will do better than earlier ones. This rule will hold good for almost all markets, and all kinds of fruit.

Mulching.

We have contended for the practice of mulching, fiercely, for the past five years, and every year doubles our appreciation of its excellencies, and judgment that it is an absolute necessity in fruit culture. One fact must be remembered, that when once begun it *must be continued*, and permanent mulching is of more value than periodical or temporary. A Wisconsin fruit grower, who mulched mostly with manure, says that while it does protect the roots as long as it is on them, yet it has a tendency to bring them out to the surface, and should there be any neglect, these roots are sure to be frozen. He finds his best plan to be to mulch heavily for two or three years, then stir the ground one year, working the soil up toward the tree. We should judge even this one ploughing would damage the roots, although we can see a partial benefit in removing the mulching and aerating the soil.

Mulching Apple Orchards.

This subject naturally calls up the experience of Capt. Pierce, of Arlington, Mass., who has a small and very profitable orchard of apple trees. The owner does not believe that orchards can flourish in grass, and keeps the ground mulched or spaded. The orchard covers between four and five acres, and contains 86 trees. Of late years the crop has brought an average of \$800 a year, besides the vegetables grown between the trees—which must stand so as to afford ample space, with about 20 trees to the acre. The mulching is done with swamp hay, of which he employed six tons the past season. We suppose the whole surface is not mulched, but only the part nearest the trees, or between the rows of vegetables. The trees are kept trained in a handsome symmetrical form, presenting, we are told, “beautifully and most symmetrically spreading boughs, many of them seeming to realize the ideal of perfectly formed apple trees.” He shows a Baldwin tree near his house that has produced fourteen barrels of apples in a year, which is deemed the handsomest apple tree ever seen.

The *Country Gentleman*, following up the subject with some remarks, says:

“Capt. Pierce adopts a mode of pruning which obviates the peculiar difficulties resulting from winter and summer pruning, and combining the advantages of both. It is well known that pruning in late autumn, winter, or early spring, when the leaves are off, favors the growth and does not check the tree, but the wounds do not heal so well when the work is done at this time. Summer or early June pruning favors healing but retards growth. Capt. Pierce removes the surplus wood in autumn, leaving stumps a few inches long. Early the following June he cuts off these stumps closely with a sharp saw, and the wounds heal rapidly.”

The *Paulownia Imperialis*.

The thrifty, rapid growth of this tree, adapts it pre-eminently to city use. A tree or two here and there upon the lawn are permissible, but there is not the elegance of outline and growth of foliage, which should keep it in favor with landscape gardeners.

A Pennsylvania reader of the *Country Gentleman* writes to that journal an enthusiastic description of a tree growing near his village, Raleigh: This tree is ten years old; two feet in diameter at the height of two feet from the ground, and I estimate its height to be fifty feet. It has bloomed seven seasons, each year multiplying the number of its magnificent trusses of flower buds, till at present there are I think on it now not less than a thousand of these miniature trees of from 100 to 200 buds. One of these I send you, with the stem and also a fragment of the seed cluster. I also succeeded in finding a pod from which the seed had not yet dropped, which I enclose. The trusses of buds for each season's blooming are formed in the growth

of the previous season, and after the leaves are shed in the autumn, present a very unique and ornamental appearance through the winter. I did not know it could be propagated from seed, but am glad to know that it can be. Imagine a tree fifty feet high, with a large spreading top, covered with a thousand of such trusses as I send you, each bud burst into a bloom as large and delicate as a sweet-pea or pansy, making it a blaze of beauty, and loading the air for several hundred feet distant with its delicious, overpowering fragrance, and you have an idea of the *Paulownia Imperialis*.

How they Raise Peaches in Delaware.

The Delaware Peninsula produces more fruit than any similar section in the world. It is estimated that the receipts from her fruit products are not far from \$3,000,000 yearly. The freight traffic alone is worth \$500,000. A committee of one of the New Jersey Agricultural Societies, having visited Delaware last year, made a report, and the following is condensed from it, showing what is necessary to make peach culture successful: 1. To prepare thoroughly, clear and enrich the soil for planting. 2. To give plenty of room, or plant twenty-five or thirty feet apart. 3. Not to shorten in the branches. 4. To do a great deal of work among the trees—plowing, harrowing, cultivating, allowing no grass or weeds. 5. To hunt the borers once a year, in autumn. 6. No raising corn and potatoes except the first three years in the orchard, and then only provided fertilizers are applied. 7. After the third year to plant nothing, but cultivate thoroughly.

The thorough cultivation was believed by owners to keep the curculios within bound, and so rapid was the growth imparted to the trees, that orchards only four years old had trees with heads twenty feet in diameter and fifteen feet high. The cultivators are broad, reaching nearly half way from row to row, and doing work rapidly.

The varieties preferred are Troth's Early, Early York, Stump the World, Crawford's Early, Old Mixon Free and Crawford's Late. Hale's Early has failed from its liability to rot.

Good Old Mrs. Pollock.

We doubt if anything has yet been found more satisfactory than the old Mrs. Pollock Geranium, and we quote with pleasure the remarks of W. C. Barry from *Our Rural Home*. "Among the many novelties and so-called novelties introduced within the past few years, none has taken a more prominent place or been more widely disseminated than the now well-known tri-color-leaved Geranium, Mrs. Pollock. It was first offered for sale in Europe in 1864, and for a number of years after commanded great prices. Only lately has it been extensively propagated in this country, and now costs but a trifle more than other geraniums. It is much esteemed as a pot-plant, and in many places has succeeded admirably when bedded out. During the winter months, under proper management, its gay and brilliant colored foliage tends greatly to beautify the conservatory, and in summer where it thrives it is one of the most useful and ornamental of bedding plants. In England it is one of the most popular plants for edgings, borders and marginal circles. In most localities in this country it does not thrive on account of our hot sun—hence can be prized only for pot culture. Since it was first brought to notice many other varieties, such as Luey Grieve, Sunset, Monitor, Meteor, all of which possess more brilliantly marked foliage, have been introduced. All of these varieties, however, lack thriftiness of habit, and Mrs. Pollock being a good grower, still holds the first place among the tri-colors. Much has been said concerning its culture. We have found it to flourish in any light, rich, well drained soil. The plants should have an abundance of light, and not too much water. Two or three plants grown in a large pot form a beautiful ornament for the parlor or sitting-room."

Arbor Day.

A good step in tree planting has been taken by the State of Nebraska. Premiums for tree planting are offered, not money only, but good agricultural books. For

instance, a special premium of one hundred dollars is given to the County Agricultural Society of that county in Nebraska, which shall upon that day plant properly the largest number of trees; and a farm library of \$25 worth of books, to that person who shall plant properly on that day the greatest number of trees.

In addition to this consecration of a new holiday, the Board offers premiums of \$60 for the best, and \$30 for the second best five or more acres of planted forest trees.

A Good Idea.

The last catalogue of J. S. Downer, Fairview, Ky., contains a handsome steel plate engraving. This is an excellent idea, as it brings directly before the public the faces of our most popular and esteemed horticulturists. The engraving is very handsome.

Los Angeles Walnuts.

The culture of almonds, walnuts, etc., is now quite extensive in Southern California. The *Pacific Rural Press* says the first English walnuts were planted in Los Angeles county in 1857. They commenced bearing in three years, the crop increasing every year. In the year 1863 the crop amounted to 9,200 pounds. Previous to 1850 the walnuts used in California were all imported from China and Chili to the amount of nearly 30,000 pounds annually.

The flavor of the walnuts raised in Los Angeles is finer than that of the imported nuts. Near San Gabriel, or the Gabriel Mission, the walnut tree is found of larger size and bearing the best of nuts. These trees were set out by the missionaries. Los Angeles county supplies a large demand for walnuts, and as Southern California becomes more settled, walnut trees will be grown more extensively, adding an increased source of wealth to this delightful portion of our State.

Lawn Sand.

By the use of sand upon the lawn, it is said that not only weeds can be destroyed, but the color and vigor of the grass very materially enhanced. One English gardener, who used it for two years, was previously very much troubled with Plantains and Daisies. In the center of each of these nuisances he placed a thimbleful of the sand, and in about five days there was only a brown patch, the weeds being entirely destroyed; and more wonderful still, the brown patch, in a fortnight more, was covered with a luxuriant growth of fresh, healthy grass. The only drawback is that the grass is rather coarse where the sand is used. The best results are said to come from the application of four ounces to the square yard.

That Model Potato.

More fun has happened to the agricultural public from the publication of this book (*The Model Potato*, by R. McLaurin and R. T. Trall) than anything we remember in late years. Two doctors write a book on potato growing, hybridizing, etc. Before the reader gets through, he finds one doctor cannot restrain his desire to mention his Home for Invalids. The other indulges in specific directions for wide planting of potatoes as a remedy against the rot, and something about subsoiling we cannot understand. We have yet to see how the running of a double mould board plow, one foot wide, at weeding time, between each row, for two consecutive years, is to result in thorough *subsoiling*.

Clematis.

The success of Mr. Jackman's new Clematis has been so great that it is now stated there will soon be issued a book upon this subject. The ex-Empress of the French, Queen Eugenie, was lately a visitor at the garden.

Another New Pea.

It seems that Mr. Laxton's new Peas are receiving high approbation in England, and have fair promise of supplanting many of the old and well-known kinds. The *Journal of Horticulture* says: "The great merit of these new varieties is that they possess qualities far superior to the old ones, with every stage of earliness."

Mr. Laxton has lately brought out another new variety, named Dr. Hogg. The plant grows about four feet in height. The stem is well covered with pods, which number from nine to ten. These are four inches long, and over three-fourths of an inch wide, of dark blue green, containing nine very large peas, which are of a deep green color. It is said to be thirteen days earlier than the old *Ne Plus Ultra*.

Solanum Warszewiczii.

This is mentioned by foreign horticultural journals as one of the very best kinds of ornamental plants for out-door decorations in the summer months, its bold and deeply indented leaves making it a striking object in the sub-tropical garden. This handsome species of a large and exceedingly diversified genus, is remarkable for its robustness and branching habit, and bold pinnatifid leaves.

Plant it in the shelter of neighboring trees or shrubs, where it may be free from either cold or violent winds.

Plaster on Strawberries—Good Results.

We mentioned a month or two since an instance of successful use of plaster on strawberry beds, which increased the yield very materially, and now we notice again the remarks of a correspondent of the Farmers' Club, N. Y., who gives his experience as follows :

"During the spring of 1868, I set 35 rods of land with strawberries of the Wilson's Albany variety, rows running north and south, three feet apart, and plants one foot apart in the row. Cultivated thoroughly during the summer with horse cultivator and hand hoe, and kept strictly free from runners. During the growing season the plants received three applications of Grand Rapids, Michigan, plaster. They made an extraordinary growth, and early in December were covered with four inches of wheat straw, for winter protection. When growth began the following spring the straw was parted immediately over the row sufficiently to allow the plants to make their way through it, and thus left to the end of fruiting.

The season proved one of frequent and timely rains, and the actual measured yield of fruit amounted to $37\frac{1}{2}$ bushels, the surplus of which sold readily in the garden at 18 and 20 cents per quart by the crate, while dealers generally found difficulty in retailing their berries at 15 cents per box or quart. I did not at the time attribute the (for this vicinity) unusual yield to the use of plaster, but as I have not since used it, and my crops have amounted to only one-fifth, and this season, from plants treated in exactly the same manner, with the exception of the use of plaster, to only one-seventh that amount, I am of the opinion that its use does not promote barrenness, but that it gives increased vigor and strength to the entire structure of the plant, thereby greatly increasing the yield and quality of the fruit."

The Larch Question.

The query raised by Prof. Matthews, of Iowa, as to the durability of the Larch, is a topic of vital interest to the West. His remarks, originally published in *The Western Pomologist*, have occasioned considerable discussion, but we are still far from any definite light. He thinks that the Larch grown upon the rich prairies of the West will not prove durable, and quotes an instance of his own experience. In 1869 he cut down several trees, and prepared them for grape stakes, setting them about the first of May. In April, 1872, he examined them, and found every one so decayed as to fall or break off with the slightest pressure.

Professor M. states that the tree's durability seems to depend upon the resinous matter or turpentine it contains, and its peculiar texture. Were it not for these, he presumes it would have no claims upon public attention for resisting exposure to water, or the ordinary inclemency of the seasons. Quotation is made from authorities who indicate that it undergoes great changes by being grown in different climates, localities and soils. In its most northern habitations, it only forms a low, trailing shrub, while in its most favored home upon the Alpine Hills and other con-

genial locations, it grows to 100 feet and upward in height. In a circular published by Mr. E. Y. Teas, on this subject in 1869, he says: "In Savoy, according to a French writer, houses are built of larch logs, squared and placed one upon another, in the style of our American log houses. The heat of the sun melts the resin contained in the logs, and the structure thus rendered impervious to air and moisture, will last for centuries. In some parts of France houses are now standing that have been built 250 years, and still show no signs of decay, the great amount of resinous matter rendering the wood imperishable, and on this account it will outlast the Red Cedar. There seems to be well authenticated instances in Europe in which Larch timber, having been in use 1,000 years, still remains sound."

Our impressions of the Larch, as gained from some specimens shown by Mr. Douglass, were somewhat favorable as to its growth; but, we feared, at the sacrifice of solidity, fineness of grain. We remember now the wood possessed little resinous quality. But does this alone determine the value of a timber tree? We believe not. We think the higher the altitude the better will be the quality of the wood.

Salt on Fruit Trees.

Last year it will be remembered considerable publicity was given to the fact that salt had been used in the pear nurseries of Geneva, N. Y., with admirable success in the prevention of blight. The annual application was from 300 to 600 *pounds* per acre. Some of our exchanges quoted *bushels*, which is wrong.

We now see it stated that a prominent nurseryman and fruit-grower near Leavenworth, Kansas, applied a-dressing of salt to a large orchard of budded *peach* trees, at the rate of three bushels to each 200 trees, a year ago last Spring. The trees seemed to thrive last year, and the past Spring he applied another dressing of the salt, digging down slightly to the bottom of the tree.

The editor of the *Kansas Farmer*, visiting the orchard about July 1, found it well set with fruit, but every tree dying, the probabilities being that every tree will not have vitality enough left to mature the fruit now on them.

We would not have advised the application of salt on peach trees, pear trees being the only ones for which it is specially recommended. If specific manures are to be used for fruit trees, we can recommend only three reliable articles, *lime*, *potash*, *phosphates*. None of these do any harm unless in excess.

Ink for Zinc Labels.

A correspondent of the *Country Gentleman* recommends the following as an ink for zinc only, that will endure for years, cuts slightly into the metal, has a black color, and is as legible after a dozen years as when newly written: "Take one part verdigris, one part salammoniac, half part lampblack, and ten parts of water; mix well, and keep in a bottle with glass stopper; shake the ink before using it. It will keep any length of time. Write it on the label with a steel pen not too fine pointed. It dries in the course of a minute or two."

Bad Effects of Summer Pruning.

Geo. Husmann of Mo. says: "In Summer pruning we take little stock; close pruning in the Winter is bad, but Summer pruning, or what is practiced in its stead, foliage murdering—is an absolute iniquity. Give plenty of scope to the vine; use no unnatural checks, and health, fruitfulness and longevity will be the result."

A New Bedding Plant.

A. S. Fuller is experimenting with a new bedding plant, called *Amorphophallus Rivieri*—a plant of recent introduction into European gardens, and unknown here until the present season. I planted the tuber in a pot, but it did not give any signs of growth until about four weeks since, when a stem fully one inch in diameter appeared, and has continued to grow until the present time. The plant is now about eighteen inches high, with a columnar-shaped stem, crowned with three large leaves, each divided and subdivided into many ovate somewhat lanecolate leaflets; stem and leaf stalks are of a dark green color, spotted with light gray, the leaflets being a dark glossy green, without any markings. The plant, as a whole, is decidedly

unique, if not what would be called really handsome. It is probably a near relative of our common Indian Turnip, *Arisæma triphyllum*.

A Showy Bed of Begonias.

Mr. Fuller also speaks of a good success he has had this year with some Begonias: Begonias are beautiful ornamental leaf plants, if well grown, and a few of them produce very showy flowers. I have tried them for several years in the open border, as well as in baskets, with very poor success, and this season I concluded not to remove them from the greenhouse, but plunge the pots in sand on one of the side stages. The result is entirely satisfactory, and all the species and varieties are as beautiful at this time as I could wish. They seem to require a high temperature and moist atmosphere to insure a full development of foliage. The old *Begonia rex* is one of the most showy of the large leaved species, but the smaller and more brilliant colored sorts help to fill up and give a diversified appearance to a group of these very interesting plants. They are suitable for window culture in summer, being seldom attacked by insects,

More Good Work in Tree Planting.

One would suppose that the State of Maine, with all its wealth of forest trees and thousands of acres of timber still uncut, would be the last to feel any interest in tree planting. But it seems that the citizens of the old pine tree State are really alarmed at the rapid destruction of their trees, and the last Legislature has passed the following act of encouragement: "That any landholder in this State who shall plant or set apart any cleared lands, or lands from which the primitive forest shall have been removed, for the growth and production of forest trees, within ten years after the passage of this act, and shall successfully grow and cultivate the same for three years, the trees being not less in number than two thousand on each acre, and well distributed over the same, then on application of the owner or occupant of such lands to the assessors of the town in which the same is situated, and is so successfully cultivated or set apart to forest trees, and at the time of such application shall file with said assessors a correct plat of such lands, with description of their location, and setting forth all the facts in relation to the growth and cultivation of said grove of trees, or incipient forest, the same shall be exempt from taxation for twenty years thereafter; provided such grove or plantation of trees shall, during that period be kept alive and in a thriving condition."

Ferns for Baskets.

The following Maiden Hair Ferns are mentioned as excellent plants for hanging or standard baskets: *Adiantum caudatum*, *A. assimile*, and *A. Farleyense*. The best kinds of *Davallias* for baskets are *bullata*, *dissecta*, and *pentaphylla*. *Nephrolepis exaltata* and *pectinata* both look well when suspended, but are not so good for a basket as *N. tuberosa*. *Platylooma flexuosum*, *Doodia lunulata*, *Asplenium flabellifolium*, *Pteris scaberula*; all the species of *Drynaria* and *Nyphobolus* are excellent basket ferns.

Early Years.

Dr. Swazey, of La., thinks that the Early Catharine is the best early pear, ripening at a time when there are few pears of any kind in the market. The Madeleine blights too much; he will never plant another tree of it.

The Osband's Summer is a fine tree and good bearer; does not come into bearing very early; does not bear very profusely at first, but the fruit is large, good and handsome. It has another valuable property, that of *late blooming*, thus always escaping injury from late blasts.

Southern Fruit Trees.

Testimony seems to point strongly to the fact that *young winter apple* trees, grown in the Southern nurseries and transplanted to Southern fruit farms, are hardier, safer and produce better quality of fruit than the young trees brought from Northern States. In the case of the pear, the truth is right the reverse, for we find Northern grown trees are much the best and thrifty. Southern apple trees carried to latitudes a few degrees further North, produce better fruit than those raised in same locality.

Best Garden Peas.

C. W. Murtfeldt, of St. Louis, says he has found the following best from his experience: If I were asked to-day what varieties do you recommend as the best and that come in succession? I would answer (and allow me to remark that for the last eight years I have taken great pleasure in cultivating many sorts); Carter's first crop, Dan O'Rourke, Caractacus, McLean's Little Gem, Champion of England, Blue Imperial and Black-Eyed Marrowfat. I hope to be able to report favorable also on the Climax.

I would not hesitate to plant either the Philadelphia extra early, the Dan O'Rourke or the Prince Albert, as a very early sort. When raised for market, of course the earliest kinds fill a specific place. In quality, the wrinkly peas are generally superior to the smooth. For a great yield and late market, and as the pea that "fills up," the black-eyed marrowfat is highly esteemed. For a family garden I would choose those first named under this head, and when planted at nearly the same time, or even the same day, they will furnish a succession of a month's duration or longer, and then the appetite will better appreciate something else.

Railway Gardens.

A good step has been taken in tree planting by the Michigan Central Railroad, who commenced last season setting a row of American chestnut on each side of their track. It is stated that the Northern Pacific Railway will shortly adopt some such course. Their industrial agent is already experimenting with many varieties of evergreens and deciduous trees, to determine which will succeed best on the plains.

The Grape Vine

Said to have been planted on Roanoke Island by Sir Walter Raleigh, and still bearing the name of the "Raleigh vine," covers an acre of land, and produced in 1870 wine valued at \$3,000. A vine in New Hampshire, by no means as large, but yet of an enormous size, is said to produce from \$250 to \$350 worth of grapes annually.

Profits on Small Fruits in Minnesota.

A Winona, Minn., small fruit-grower, shipped 20,000 quarts of Strawberries and Raspberries this year.

What We Know About Turnips,

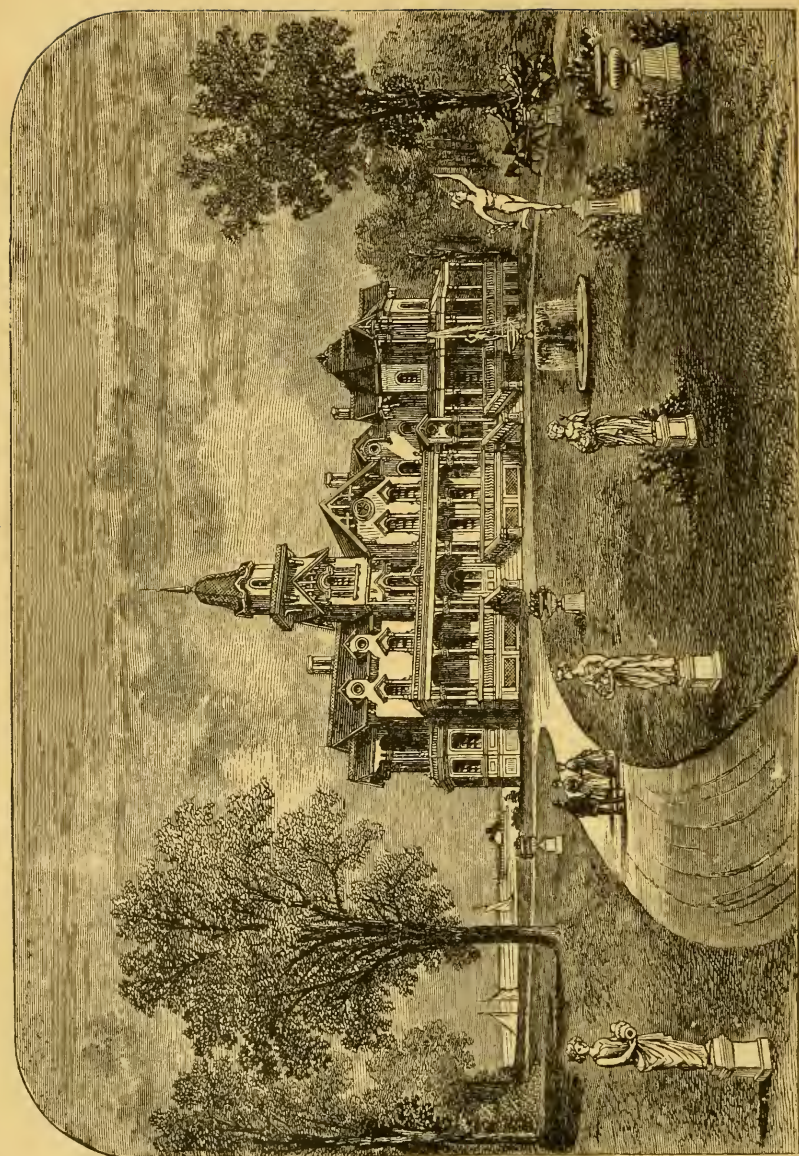
Is a pretty little pamphlet by David Landreth & Son, of Philadelphia, upon their experience in Turnips. As Mr. Landreth always can be depended upon for perfect reliability in words as well as seeds, it can be considered more than equal in value to that other famous volume, "What I Know About Farming," about which there is yet some question what the author does know.

Pear Blight.

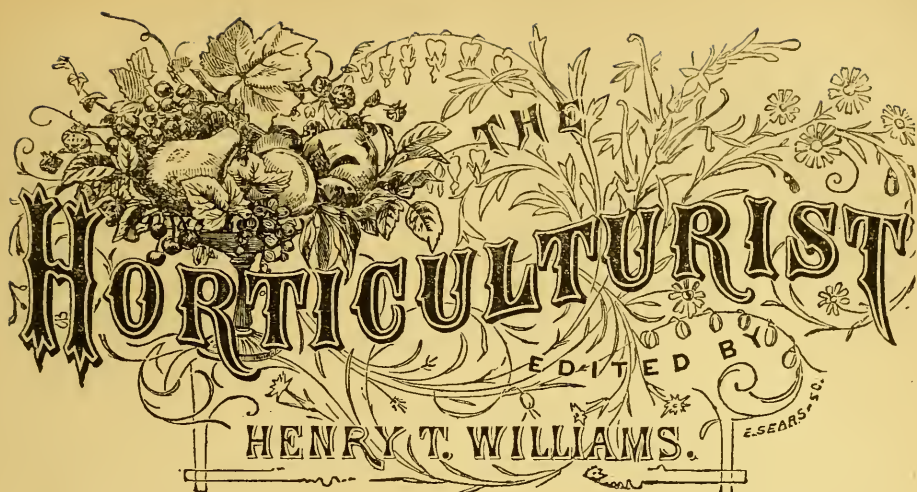
Pres. Ohmer, of the Mont. Co. Horticultural Society, when the subject of Pear Blight came up recently for discussion, said his experience had taught him that the most thrifty trees were the first attacked, such as the Vicar of Wakefield and the Lawrence. The Seckel and Tyson seemed to escape altogether, and the Bartlett stands well. His remedy was, after five or six years cultivation, to sow clover in the orchard—grass was too thick, and prevented the air from getting to the roots.

Paulownia Imperialis.

The same society report the "Paulownia Imperialis," advertised extensively by C. C. Cooley, Manchester, Ohio, at \$1.50 per tree, was introduced and planted here by the late J. G. Phillips, many years since, and grew vigorously every summer, and was killed to the ground every winter, until it finally disappeared. As grown by Mr. Cooley, on an island in the Ohio river, the temperature may be so modified by surrounding water and two degrees more southern latitude, that it is not winter-killed. There was a large, blooming tree in the Sayer Nursery, near Cincinnati, some four or five years since; but the tree is sold by Eastern nurseries at the ordinary price of common ornamental trees, 50 and 60 cents each. They consider it an imposition to sell it at such high prices.



WALDEMERE, RESIDENCE OF P. T. BARNUM, BRIDGEPORT, CONN.



VOL. 27.

OCTOBER, 1872.

NO. 316.

Waldemere—Seaside Residence of P. T. Barnum.

AMID the busy cares of managerial life, and pecuniary vicissitudes, Mr. Barnum has found time for the development of some of the finer touches of his taste, in his love for rural ornament and disposition to add, both in a public and private way, some lasting contributions to the subject of rural art and decoration.

Mr. Barnum might be called a universal tree planter. Very few know how much good he has accomplished in this respect, save only the immediate and grateful participants in their cool shade, afforded by their leafy canopies.

A beautiful cemetery, *Mountain Grove*, the pride of Bridgeport, was of his creation. He bought the land for it—80 acres. A meeting was called of the citizens, lots subscribed for, and by the aid of a concert given in aid of the object, means were realized, from which the grounds were laid out, stone arched gateway and stone tower erected, and beautiful decorations added. This was the beginning of what is now a most tasteful cemetery, displaying *landscape art of highest degree*, and which is filled with costly monuments, and adorned with trees, shubbery, and splendid drives. There are many noticeable monuments, gathered within its limits, whose cost, in some cases, reaches fully \$25,000. It is also through Mr. Barnum's influence that other contributions have been obtained, which have aided the development of this praiseworthy enterprise. Dion Boucicault, Tom Thumb, Minnie Warren, Commodore Nutt, have each contributed toward it, from their purses or by public "benefits." Mr. Barnum needs no marble to denote his last resting place, for there be many who think the trees planted with such profusion, will longer bear his name and memory down the distant years, than any carving of human skill. Another of Mr. Barnum's enterprises was the development of East Bridgeport. We need not give the details of its growth, only to mention that it is through his efforts it has risen from a bare, unoccupied plain, to a city of many thousand inhabitants, and numerous manufactories, whose capital now amounts to *ten millions of*

dollars, and who spend *two millions* yearly in wages. But as you wander up and down the streets, lined with neat cottages, you think not so much of that as of him who planted these 30,000 *beautiful trees*. Here, again, Mr. Barnum's tree fancies budded, and now are blooming with the best of fruit—"pleasant memories." Still again, the same rural fancies found opportunity for large development. *Seaside Park*, Mr. Barnum's latest public gift, is worth going miles to see. Most of this land was held by unprogressive, stolid real estate plodders. It was with the utmost difficulty Mr. Barnum and his friends succeeded in getting possession of it, and gave it to the city. Thousands of dollars were expended, and other land added from time to time. Drives and lawns were laid out, in handsomest manner—free to all. Owing to the many impassable rocks, the sea-shore was inaccessible, but the rocks were used for foundation and sea-walls, and now a royal drive skirts the sea-shore, and the park sweeps easily down along its edge. Just back of the park, which is oblong, running from east to west, is located Mr. Barnum's latest residence, named *Waldemere*, a pretty and poetic name, suggestive of "*Woods by the Sea*," and which is illustrated in our frontispiece. A glance at it is sufficient to illustrate the elegancies of architectural art. It is a combination of French and Italian styles, but with so many exquisite details, that in many respects it has the picturesqueness which only the Swiss excels in. The tower is high and commanding; the long piazza decorated with ornaments in the most profuse style; the carvings of balconies and stair approaches; bow windows, such as ordinary architects never saw before; and the roof, varied with great detail; all without a solitary chance for criticism, and in the finest taste, producing a very harmonious and beautiful effect. Not a little of the charm is due to the splendid colors of the paint, which, in its shades, is as varied as the styles of architecture and details of decoration. Within, the interior is resplendent with the polish from native woods, and unique designs of ornament. One room alone—Mr. Barnum's business office—is mentioned as being the most sumptuous of any room in the country, costing \$10,000. Freseoes and elaborately carved furniture make it more like a palatial drawing room, than one of every day use. Each room is lighted with gas; has hot and cold water, and elegantly furnished toilet apartments. The grounds around the house are laid out in the most approved methods, with vases, fountains, statuary, and not forgetting the shrubbery or trees. Just below his house, is a lovely group of hickory and oak. Here is a *summer-house*—the perfection of comfort—surrounded with wire gauze, it protects the reclining visitor from any inquisitive insects. Add to all this, the birds, both the wild among the trees, or domesticated in cages; the spreading lawn; the children gamboling over the grounds—for they are free to rich and poor alike—and we have a picture of real good-hearted beneficence. Very few rich men we know ever offered their suburban grounds free to public use and enjoyment like this. Near his own house are other charming cottages, *Warewood*, *Petrel's Nest*, *Cottage Grove*, presented to each of his daughters. The Sound gives day and night the coolest and most refreshing of breezes, and a stroll along shore reveals a panorama of villa beauty, landward, with many villas and cottages of elegant architectural character, which seem in harmonious keeping with the still more exquisite tracery of tree structure, in the leaf-covered canopies of the shaded streets of the city beyond.

Amorphophallus Rivieri.

THERE has not been for several years, perhaps, a greater acquisition to our fine leaved plants than has been of late by the introduction of *Amorphophallus Rivieri*, a well marked member of the *Arum* family, and one which no doubt will yet play an important part wherever plants with unique and striking foliage are in demand.

What we know of this new comer is that it was advertised for sale by Vilmorin, of Paris, last season, as "a plant producing from a thick stem a very extraordinary looking palmated leaf, in the shape of a reversed umbrella, from two to three feet in diameter, supported on a stem of the same height, dark green in color, and the stem and leaves irregularly spotted with white."

We procured a root (corm) in the spring, which was duly planted in a pot and placed in a warm house. It proved tardy in starting, but after a time, and as the season advanced, it pushed up a solitary leaf stalk, safely protected by an enclosing sheath, which perished when no longer of use. When about a foot high the limb of the leaf began to unfold itself, and continued to grow until now, when it is three and a half feet in diameter, and two feet nine inches in height. The arrangement of the parts is quite interesting. The stem (petiole) stands clean and taper to where it branches into three primary divisions; these again divide three or five times alternately, and terminate in from one to three, mostly entire, but sometimes scalloped leaflets. From the point of junction to the terminal leaflets, every primary and secondary rib and nerve is broadly winged, which at irregular intervals run into ovate-acuminate leaflets, ranging from one to three inches in length by one-half to two and a half inches in breadth.

It seems to increase readily at the root as young plants begin to show themselves, coming up by the sides of the pot, and is also exempt from the depredations of those insects which so often mutilate *Dracænas*, *Begonias* and other special favorites.

New Haven, Conn.

A. VEITCH.

Pears which do not Rot at the Core.

DEAR HORTICULTURIST: Please give me a list of pears that do not rot at the core when ripe; also, a list that when mature are least liable to rot at the core, and a list of some really good ones that are best when just ripe, but decay rapidly after this period.

WILLIAM HERDMAN.

Answer by Robert Manning.

Your correspondent need not fear any trouble from rotting at the core with any of the pears named in the lists "recommended for general cultivation"—that of the American Pomological Society, for instance—*provided he will take care to gather them in season and ripen them in the house.* This precaution is especially necessary with the summer pears, and the man who has not foresight enough to take it, deserves to have his pears rot at the core, and they will. When allowed to hang on the tree, the Harvard pear is, perhaps, as apt to rot at the core as any, but gathered while hard and ripened in the house, it is entirely free from this defect. Some fault has been found with that fine new pear, the Clapp's Favorite, as rotting at the core,

but I am confident that this never happened when the fruit was gathered in season. I remember that at the meeting of the Pomological Society, in St. Louis, Mr. Wilder, the President, showed sound specimens which he had brought from Boston. This was the eleventh of September, nearly a month after the proper season of this variety.

Among the Bon Chretiens and Bergamots, and other old pears, many never became melting, but now it is an indispensable requisite for a first-class pear that it shall be melting or buttery, and all others are at once consigned to the rejected list. But once in a while a man gets hold of a pear of different character, and not understanding its nature, he waits for it to become melting, and while he is waiting it rots, and then he sets it down as apt to rot. Of course it does; all pears rot after ripening,—that is the next process in the order of nature, or rather it is but a continuation of the ripening process.

The winter pears keep longer after they are ripe than the earlier kinds, but this is probably caused wholly by the colder weather when they ripen. Among the autumn kinds the Merriam and Buffum may be noted as keeping particularly well when ripe. The Figue pear goes very quickly after ripening, and Flemish Beauty has something of the same habit. Sheldon goes suddenly like the deacon's one hoss shay, "all at once and nothing first." The worst pear I ever knew to rot was the Yat or Yutte. I don't think I ever got one in perfection, though I watched ever so closely. I believe that if I found one hard and left it for fifteen minutes, when I came back it would be all mush. Caen de France, which I was first to test in this country, I found apt to rot at the core with the best care, so that I never recommended its cultivation. Others who have fruited it since have not thought it liable to this objection, but I would not trust it. The Early Rousselette or Catherine begins to decay around the stem, so does the Vicar of Winkfield. Madeline frequently rots around the eye while yet hanging on the tree.

I find that I have not answered your correspondent's inquiries, at least directly, but instead of it have jotted down such general thoughts in regard to the subject of them as have occurred to me. But for the lists that he wants, let him take the American Pomological Society's Catalogue, and select those designated as adapted to his locality. All the miserable sinners, that *will* rot at the core in spite of proper care, are in the rejected list, and only the good sound ones are retained.

Tree Planting.

Street Trees.

Geo. Vasey, the new botanist of Department of Agriculture, says in some of his notes for the regular monthly report:

"We have yet much to learn, or perhaps we should say much to practice, with regard to suitable shade and ornamental trees in cities. In some instances it seems to have been the rule to plant anything that could be easily procured, particularly if recommended as a rapid-growing tree. Hence so many of our streets have been overrun with the aliantus, so sadly misnamed the 'tree of heaven.' Its very disagreeable odor at flowering time has caused a raid which threatens to result in its

extermination. The next raid will probably be upon the white poplar, or cotton-tree, (*Populus alba*, L.) When its seed pods are matured, there is a period of eight or ten days during which the air is filled with the cottony down of the seeds, causing much annoyance. Still, this tree has many good qualities, and we hope it will be left at least until better trees can be reared. The locust (*Robinia pseudacacia*) has almost disappeared from cultivation at the north by reason of the ravages of the borer. The silver maple is desirable for its rapid growth and beautiful silvery leaves, but in some localities it has been sadly injured by a borer, which has caused the death of many trees. Its long slender branches render it particularly liable to injury from storms of sleet. No native tree we have is better adapted to the purposes of shade and ornament than the sugar maple. Its foliage is full and dense, and its form is that of a rounded cone of beautiful proportions. It is also clean and free from insect enemies. It would be well if, in planting shade-trees on our streets, there could be a suitable alternation of different kinds, some of rapid growth for temporary use, and others for permanence. Some attention should also be paid to variety. Probably the very best trees for general street-planting are the different varieties of the maple. Next in value we would place the elms. For intermediate and temporary planting the box-elder and the ash may be mentioned. Here and there should be the bass-wood, or linn, the tulip-tree, the horse-chestnut, and the buckeye. The sycamore and catalpa are too open and straggling in their habit to be valuable for shade, but give an agreeable variety to a park. The conditions of latitude and temperature will also modify the selection of suitable varieties."

Trees for Landscape Ornament.

In the course of the proceedings of the Royal Horticultural Congress, at Birmingham, England, a paper was read by William Paul, on *tree scenery*, especially referring to forms in trees, and how to arrange them in picturesque groups, harmonizing the stiff and formal, with the broad, or those of long, sweeping branches; some of his suggestions are applicable to our own country. When planting in the vicinity of a dwelling house, the form of the trees should be in harmony with the character of the building. Two classes will cover all, the *Perpendicular*, of which the Gothic is a good example, or the *Horizontal*, which is fitly exemplified by the Italian style. Irregular, round-headed, and weeping trees are in character with either, but the laminate or round-headed, seem most pleasing in connection with the Perpendicular or Gothic, and the columnas or irregular with the Horizontal or Italian. If the building be low, tall growing trees should be avoided, and the round-headed, the laminate, the weeping, are especially desirable, because they direct the eye horizontally and downwards. It should ever be borne in mind that the presence of lofty trees, in proximity to a low building, has the undesirable influence of still further depressing it.

Evergreens, as a rule, are massive and heavy; deciduous trees are light. Evergreens alone produce gloom; deciduous trees alone baldness; a judicious combination of the two is productive of higher results than can be obtained by the exclusive use of either.

FORM OF LEAVES.

The effect of form of leaves is quite important. In garden scenery it is scarcely

less important than the form or outline of the tree. Leaves may be conveniently divided into the following classes :

- | | |
|--------------------------------|--------------------------|
| 1. Needle-shaped—Pine. | 4. Cut-leaved—Plane. |
| 2. Lanceolate—Willow. | 5. Compound—Black Walnut |
| 3. Round-leaved— <i>Lime</i> . | |

Violent contrasts in the arrangement of trees and shrubs by their leaves, should be avoided. It would not do to place a tree with needle-shaped leaves in juxtaposition with one bearing large, round, or head-shaped leaves. The lanceolate is the most useful and accommodating form, as it stands well in contrast with any of the others.

The following is a list of most commonly planted trees, arrayed as examples, and selected :

1. ACCORDING TO FORM OF THE TREE.

- | | |
|--|----------------------------------|
| 1. Irregular—The Scotch Pine. | 4. Columnar—The Lombardy Poplar. |
| 2. Round-headed— <i>Robinia inermis</i> . | 5. Weeping—The Weeping Willow. |
| 3. Lamine—Silver Fir and other <i>Piceas</i> . | |

2. ACCORDING TO FORM OF THE LEAF.

- | | |
|--|-------------------------------------|
| 1. Needle-shaped—Scotch Pines or other Pines. | 3. Round-leaved—The Lime or Linden. |
| 2. Lanceolate— <i>Salix babylonica</i> , and most other Willows. | 4. Cut-leaved—The Plane. |
| | 5. Compound—The Black Walnut. |

Strawberries in Ohio.

THE following report upon strawberries was furnished by W. F. Heikes, at the June meeting of the Montgomery County Horticultural Society :

Nicanor.

A very hardy plant, fruit stalks short, valuable for its earliness and delicious flavor, excelling in this respect Burr's new pine. To those who would take the pains to keep the runners off this plant, it would, I think, prove very satisfactory.

Charles Downing.

This variety is increasing in popularity with fruit growers. The fruit ripens with the Wilson, with the advantage of a greatly superior flavor, and a better and more uniform size. The plants seem equally as hardy and prolific ; but the fruit is not quite as firm, consequently not as valuable for shipping. For my own garden and table I could give the variety the preference over all others.

Green Prolific.

One of the hardest sorts in cultivation, if not the hardest. It shows more fruit this year than any other variety I have in cultivation. The plants seem to have stood the severe winter better than any other, and do not seem to have been influenced by that disposition to unfruitfulness so marked in other varieties this year. One serious fault of this variety is, that its blossoms are not perfect, requiring the presence of other sorts in close proximity to insure an abundant yield.

Kentucky.

This promises to be a valuable sort, especially on account of its late ripening. The specimens on exhibition will show little more of its good qualities than this peculiarity. The fruit stalks of this variety are longer and more upright than any other on my grounds. The plants are very strong and vigorous.

Curious Experiments in Grafting.

SEVERAL very interesting and curious experiments in grafting were tried last February, at the Illinois Industrial University, and are thus reported by the *Prairie Farmer*:

Ten cions each of the Ben Davis variety of apple were grafted as root grafts, with each of various cuts of cions and root given below. Equal care was taken in grafting. All were wrapped with waxed thread and packed in moist sawdust.

April 8th, 1871, all were set in nursery and subsequently received the same cultivation, with the following results at the end of the season:

Cut of Root. First cut is the Collar cut.	Cut of Cion. Fourth cut is Terminal Bud.	Per Cent. Living.	Ave. Growth. Inches.
1st cut, (collar)	1st Cion	80	14 7-9
"	2d "	70	9 5-14
"	3d "	80	8 1-16
"	4th "	60	19 1-16
2d cut,	1st "	70	14 9-14
"	2d "	80	15 13-16
"	3d "	30	8½
3d cut,	1st "	30	9
"	2d "	40	9½
"	3d "	70	10¼
"	4th "	40	7
4th cut,	1st "	30	11½
"	2d "	0	
"	3d "	40	12½
"	4th "	20	8
Average per cent. and growth	1st cut of Root	72	12.81
"	2d "	60	12.98
"	3d "	45	8.96
"	4th "	30	8.21
Average per cent. and growth	1st cut of Cion	52	12.51
"	2d "	63	11.59
"	3d "	55	9.63
"	4th "	40	11.35

From this it will be seen that the experiment tends to show that the first cut of root and cion is rather the best, though not decidedly superior to the second cut. The terminal bud cion does not give as good results as we would have anticipated.

Here are some experiments with roots of different lengths:

	Per Cent. Living.	Average Growth. Inches.
6 inch root, 1st cut of root,	80	22 9-16
" 2d "	50	8 2-5
4 inch root, 1st "	80	16½
" 2d "	70	19 1-7
2½ inch root, 1st "	60	14 1-6
" 2d "	20	9
" 3d "	10	9
" 4th "	30	12½
1½ inch root, 1st "	30	21
" 2d "	10	23
" 3d "	40	12½
" 4th "	30	17

The best results have appeared to come from the four inch roots, but we have the curious fact that the shortest roots made the longest growths where they lived.

Another experiment was made with *inverted* roots;

and is loaded with heavy clusters of fruit to the very extremities of the vine, a distance of nearly one hundred feet from the root, which measures a foot or more in circumference at the surface of the ground! Mr. Bailey is confident he shall be able to pick one hundred pounds of grapes this season from this one vine! As this gentleman is a stock and grain farmer rather than a fruit culturist, these items are significant of the capabilities of this soil and climate to the perfection of the choicest fruits in richest abundance.

"With the President of the Pomological Society—Mr. Norman Phillips—I had the pleasure of visiting several of the newer fruit farms, and those destined to fruit culture. On some of these, the native forest maple, beech, white ash and the like, are still standing, and attested by their size and height to the productiveness of the soil. Many huge white-woods are straight as an arrow, and full sixty feet to the first limbs. Excellent springs in abundance everywhere.

"South Haven village is located on rolling land high and dry, with many choice sites for first class residences for miles along the lake shore. It was formerly a lumber mart chiefly, but it seems destined to be as noted for the shipment of fruit as formerly for lumber. The harbor is being improved by the Government, manufactories are being established, the country back for miles is fast improving, capital is being invested, and many new buildings erected. Most of the village site is very eligible for residences, and the river banks afford the very best of advantages for mills and manufactories."

Doctor Swazey's List of *Gladiolus*.

Doctor Swazey, former Editor of the *Southern Horticulturist*, says, in making out a good list of varieties:

Plant in rich, deeply dug beds six to eight inches apart, about two inches deep and support the flower stems by tying to small stakes. The following varieties are among the best and most distinct:

- Aglæ*—Rosy, carmine, large flowers, strong habit.
- Apollon*—Lilac-rose, finely striped with white.
- Bowiensis*—Bright crimson, large extra, long in bloom.
- Calendulaceus*—A bright nankeen, very distinct.
- Comte de Morny*—Dark purple, large white spots, striped.
- Cornelie*—Light cherry, edge deep rose, center transparent.
- Don Juan*—Orange, fiery red and yellow, very showy.
- Duc de Malakoff*—Brilliant scarlet, white throat, extra fine.
- El Dorado*—Bright yellow, lower petals striped with red.
- Flora*—White, shaded with purple, large flower.
- Galathea*—Bright carnation, striped with deep crimson.
- Gandevensis*—Beautiful scarlet and orange, old but fine.
- Hebe*—Flesh color, flaked with rose and carmine.
- Ida*—Large flower, white, slightly tinted rose-carmine, lower petals yellow.
- James Watt*—Pale vermillion, white throat, striped.
- Laquintinie*—Bright orange, very showy, unique.
- Mad. Vilmorin*—Brilliant rose, feathered with lake.

Newton—Dark crimson, white ground, perfect shape.

Ophir—Dark yellow, feathered purple, very fine.

Refulgent—Rich velvety scarlet purple, tinted violet.

Rosini—Bright amaranth, inside white; new and fine.

Lotpatore—Pure sulphur yellow with light crimson spots.

Triomphe d'Enghien—Velvety mahogany, rose color, showy.

Urania—Pure white, beautifully flamed rosy carmine.

Vulcan—Rich velvety purple carmine, center violet.

Floral Notes.

Twelve Best Gladiolus.

After carefully observing several hundred varieties of *Gladiolus*, during the past two years, we have naturally selected the following as the twelve best varieties now grown in this country. Such a list will be found very convenient to any who intend planting largely in the future in their gardens. The *Gladiolus* is so easily cultivated, and withal so cheap in price, that the best varieties are now within the reach of all purses:

Meyerbeer—A superb variety, and first in every collection. Brilliant light red, blazed with vermilion; a large flower, very large and long spike; most perfect in form, and vigorous in habit.

Le Poussin—A very chaste and delicately colored variety; light red, white ground, with large white stains on lower petals; considered unusually fine.

Shakespeare—A beautiful white flower; very large, perfect shape, slightly blazed with carminate rose, and with large rosy stains; the best of the white sorts.

Stella—Flower large, well shaped; ground white, slightly tinted with yellow and rose, and blazed with carminate red.

Lord Byron—The best of the moderate priced varieties; very brilliant scarlet, pure white stains, very showy, and exquisite colors; always much admired.

Napoleon III—Very bright scarlet, red and white striped in the center of the divisions.

Belle Gabrielle—One of our standard popular sorts; large flower, perfect shape, fine lilac colored rose, slightly marked with bright rose.

Meteor—Dark red, very brilliant, large stain of pure white, very remarkable.

Moliere—Flower very large and wide, perfect, cherry colored, red, with large pure white stains.

Prince of Wales—Very bright fiery red, stain white, striped violet; one of the finest of the red varieties.

Madame Vilmorin—Clear rose and white center, margined and shaded with deep rose, beautifully striped and spotted with carmine; remarkable for the beauty of its form, and grandeur of its flowers.

Imperatrice Eugenie—Really superb; very large flower, of perfect form, white ground, blazed violet rose inside of the flower, outside lilac; one of the most striking varieties yet introduced.

Three Best Roses.

Every year we are treated to voluntary lists of "Best Roses" made out by some English gardener. This year the following report is said to have occurred: Fifteen of the most distinguished rose growers in England were separately asked to name thirty-six roses, and out of that number to designate twelve which they considered the best twelve. The result was that of the roses which were named, only *three* were on the record named by *all* as worthy to be placed on the first twelve. These

three roses ought to be universally known, as every one who cultivates flowers wants the best roses, as a matter of course. They are: 1. Marechal Neil; 2. Baroness Rothschild; 3. Marie Baumann. It will be observed that at the head of the three stands Marechal Neil, sweetest of the sweet.

Hardy Border Flowers.

In our floral literature we need more reliable talk and information about hardy flowers for garden borders and lawn flower beds. Is there not some one to take up this topic, and give a chat about best varieties, which any family can easily handle, and are sure to grow? In a late number of the *Florist* and *Pomologist*, mention is made of a new and very fine herbaceous plant, the *Dicentra chrysantha*, which becomes covered with fine golden-yellow flowers, and is considered one of the very showiest border plants known.

The *Campanula pyramidalis* is stated in England to be the gem of all showy plants in the mixed border, many of them growing from 3 to 3½ feet in height. Add to these, *Antirrhinums*, *Aquilegias*, *Penstemons*, and *Delphiniums*, and there is found a good selection for decorative purposes during the summer months.

The Aquilegia Cærulea.

A pleasant recommendation of this is found in the *Journal of Horticulture*: "Few finer plants can be recommended for flowering through June and July, than this blue Columbine, which is also known as *A. leptoceras*. It is a native of the Rocky Mountains, and is undoubtedly one of the very finest species of the genus yet introduced to our gardens. It usually grows about 18 inches high, and the fact of its having withstood the severity of our winters for the last three years, is sufficient guarantee of its hardiness. The leaves are broad, irregularly lobed, and dark green. The flowers are large, erect; the outer portion, including the five long spurs, rich blue, whilst the petals are white, the whole forming a charming flower, and producing a grand effect in a mixed border; the only regret being that as so few amateurs have added this plant to their collections, it is too seldom seen.

Hanging Baskets.

A contributor to *The Garden*, says: "Plants with slender branches which naturally hang down, are most suitable for hanging baskets. "Mother of Thousands"—the "Wandering Jew" with its pretty marked leaves—the "Lobelias," and some of the trailing "Campanulas or Bell flowers"—the well-named "Rat-tailed Cactus," and the so-called "Ice plants," are all more at home when suspended than when grown in any other position, unless it may be when placed on brackets at each side of the window, where they have a very charming appearance. I would suggest that the suspended basket or flower-pot should be supported by a piece of cord passed through a small pulley, by which means it will be easily lowered down for the purpose of watering."

New Bulbs.

Among Bulbs of 1871, the *Liliums* take the first place—and deservedly so, for few of our garden flowers are more beautiful than they. *L. Washingtonianum* we have already figured, and we shall hope to see blooming plans exhibited in the ensuing summer. *L. Maximowiczii tigrinum*, and *L. Roezlii*, two very charming sorts—

the first from Eastern Asia, and the second from the Rocky Mountains—we shall leave Mr. Baker to locate, being content to record the fact of their having found their way to European collections. The South African *Gastronema sanguineum flammeum* is a charming dwarf greenhouse bulb, with linear lanceolate leaves, and rosy-crimson flowers of great beauty. The ranks of the *Gladioli*, augmented a year or two since by the importation of *G. cruentus*, which is now yielding the fruits of hybridization, have been still further strengthened by the acquisition of the showy yellow-flowered species, and also of *G. Saundersii*, which is very distinct and remarkably handsome, with scarlet flowers marked with white on the lower segments, the blossoms themselves being decurved. Finally, *Xiphon*—the genus of the bulbous Irises, gives us two very ornamental additions, *X. filifolium*, with rich violet-purple flowers, and *X. junceum*, the blossoms of which are of a golden yellow.—*Gardener's Monthly*.

Lilium Leichtlinii.

This lily, which has bloomed first in this country, this summer, on the grounds of C. L. Allen & Co., Queens, L. I., is a rarity among new varieties. Mr. Andrew S. Fuller, in the *Rural New Yorker*, says its origin is unknown. Messrs. Veitch & Sons, the well-known English nurserymen, found a bulb of it among some *L. auratum*s, which they received from Japan a few years since, and J. D. Hooker, Curator of the New Gardens, named it after Max Leichtlin, of Carlsruhe, a gentleman who has paid especial attention to the introduction and cultivation of lilies.

This new lily resembles, in some respects, the common Tiger Lily in the form of the flower, but differs from it not only in the color but graceful habit of the plant. The stems are tall, slender, three to four feet high, with many long, slender branches, or flower-stalks. Leaves, alternate, sessile, rather remote, linear lanceolate, acute, spreading and recurved, three to four inches long, and about three-fourths of an inch broad, pale bright green; flowers solitary but numerous, four inches in diameter, nodding, bright, light golden or lemon yellow, spotted or blotched with maroon. The bulbs appear to be perfectly hardy and the plant altogether a vigorous grower and profuse bloomer.

Hybrid Perpetuals.

In an article on "Monthly Roses," the *Iowa Homestead* says: "Every lover of roses feels disappointed when purchasing hybrid perpetuals, under the impression that because they are "perpetuals" they ought to bloom all summer; but if flowers come once in early summer and again towards autumn, they do well. The greatest enjoyment can be had from the monthly roses, for these keep up a constant show.

"Have had varieties that we put out this spring, only six inches high, and they have been in continuous bloom, flowering more profusely as they get larger.

"As fast as the petals begin to decay, the buds are cut off, and the old wood is pruned away, thus keeping up a constant growth of new wood, on which the flowers are produced. Lamarque, white, with creamy center; Phoenix, crimson; Virginal, pink; Marshal Niel, yellow—are beautiful varieties. Then the leaves and wood are so delicate and beautiful, a fine contrast to the flowers. Every amateur should have a few of these monthlies, for they will give the greatest pleasure."



The May Beetle—*LACHNOSTERNA QUERCINE*.

THE large white grub of this beetle is becoming a serious pest to nurserymen and farmers. From the time spring opened, it has been making sad havoc, here and elsewhere in the State, among some kinds of nursery stock, potatoes and other plants. It has been very destructive to apple root-grafts in particular. The ground swarms with grubs of all sizes, from a half inch up to full size—one and a half to two inches. No flight of beetles occurred at the usual time in May—a failure that we have never known before. Now, why did not the grub complete its transformation and the beetles come forth from the ground this season? What can be done to destroy this grub or lessen its numbers? To what depth does it penetrate the ground for winter quarters? Will deep plowing late in autumn kill such of them as might be turned up within the influence of the frost? Similar complaints and queries come to us from other localities in the State. Last season, a year ago, it was very destructive in some parts of Mills county, this State. We now have like reports from Johnson and other counties. We have asked our Iowa Entomologist, Dr. S. H. Kridelbaugh, of Clarinda, to tell us what he knows about it, and herewith append his remarks, with illustrations:

REMARKS.—Every farmer, gardener, and horticulturist will readily recognize the likeness given at fig. 1, as a terrible pest to the meadows, the strawberry beds, the corn, wheat and oat fields, and the nursery—commonly known as “the White Grub.” In some localities we have found these white grubs in all three of its brood states, at one time, arising from the fact that the locality is infested with three families of the same insect—*Lachnosterna quercine*, or May Beetle, which requires three years to pass through all the stages of insect life from the time the eggs are deposited in the rough, loose earth by the parent. Sometimes, late in the fall of the last year, the larvæ change to pupa, as in the margin shown, at fig. 2, and are soon again changed into perfect shaped, soft, white beetles, and are often plowed up late in the fall, but this condition is not general; most of them pass through the pupa state during the latter part of the third year, and become perfect images the third spring after the eggs were laid.

Here, at figures 3 and 4, we give a side and back view of this insect, so perfect in size and appearance, even color, that verbal description is deemed unnecessary. Indeed, all four of the engravings possess this merit.

Your complaints of their abuse to nursery stock, is nothing new, particularly so

far as plants from this last spring's planting of seeds and grafts is concerned. Early in the spring I have found the larvæ as much as eighteen inches below the surface, though to find them so deep down is not very common. Most generally they will be found in the neighborhood of the fibrous roots of grass, corn, or any of the varied plants, upon whose roots it feeds while in the larvæ state. If freezing would kill them, fall plowing might be a means of destroying them, but freezing does not kill them.

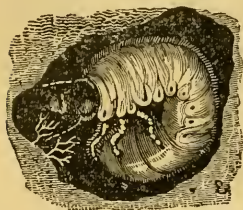


Fig. 1.

The reason there was no flight of them in the region of Des Moines, this year, was, that you are as yet free from one brood or family which closes up its completion of transformation this season. North of St. Joseph, Mo., about ten miles, in the neighborhood four miles southwest of Savannah, Mo., the flight in the latter part of May and first of June was large. In this region, the people are cursed with three distinct families of the May Beetle, one maturing every season. The families of 1870 are small, while those of 1871 and 1872 are numerous. The one of 1871 is, however, much larger than either of the others. It may be, from what you say about the different sized larvæ you find in your locality, that you have an influx of one of these broods, or even all three of them, and in future years will have a flight every season, instead of one every third season, as has been the case heretofore.



Fig. 2.



Fig. 3.

The best means we know of to destroy them, is to pasture the infested fields with hogs; they love them, and will "go for them," if they have an opportunity. All kinds of fowls, domestic and wild, devour them, if the earth is loose and they can scratch them out. The badger, the weasel, the skunk and the marten are among their natural enemies.

From near St. Joseph, Mo., and Adams and Pottawattomie counties, Iowa, and in this locality, we have specimens of the white grub attacked by a vegetable fungoid growth, which undoubtedly destroys many of them. That this means of destruction of this insect, while in its larvæ state, is by no means small, we are confident, as we have accounts of its prevalence in Pettis county, Mo., in Tipton county, Iowa, through the First Annual Report of Prof. C. V. Riley, the excellent Entomologist of Missouri.

Dr. Walsh, late Entomologist of the State of Illinois, in one of his excellent papers, speaks of another fungoid growth from the white grub, in the form of a white mushroom, which was several years ago found by the thousands in parts of Virginia, by negroes, who were making hills for tobacco. These mushrooms were said to be poisonous, causing the death of hogs that ate them.



Fig. 4.

THE APPLE TREE BORER.—Barry says that in Western New York the Apple Tree Borer is seldom met with. He has found it in but two or three instances; in very old, neglected orchards that had stood for twenty years in grass.

Grapes and Wine in Missouri.

AT the June meeting of the North Missouri Grape Growers' and Wine Makers' Association, a favorable report was given of the condition and prospect of the present season's crop. Though the vines had been somewhat injured by frost, especially along and near the Missouri river, the crop promised well. It was stated that the Virginia Seedling suffered most; Concord had stood the winter well and promised the best results; Taylor Bullit doing finely; Herbemont will do nothing unless laid down and plowed under during winter; Catawba is mildewing and a failure. Crops are best, of all varieties, on the ridges—vineyards on the ridges and along the line of the railroad, doing much better than those situated in the lower lands. Some of the members felt assured, from observations made, that prairie land is as good as timber land for quantity of fruit, but not so good for either quality or yield of wine. Taylor Bullit was the best grape for white wine, and a good grower, though a rather shy bearer. The Concord, most prolific. The most prolific, hardy and cheapest grape for white wine, the Gæthe. At the August meeting of the Society, Concord was reported rotting badly—probably to the extent of half the crop—Norton's Virginia rotting some, Clinton but little, Delaware and Ives none.

S. Miller, Bluffton, Mo., writes the *Rural World* to correct an error in a former article, wherein he is represented as having 500 Ives in his vineyard, when it should be Iona. He has but 100 of the former; thinks the Ives has had its day. About Cincinnati, it stands high, but in Missouri, it falls too low in quality. The Iona is doing well with him, ripened up well last season and promises well this. It makes a superior wine, and should it continue to do as well in the future as for the past, it will be one of his standard varieties. That it rots badly sometimes, is true, so does Catawba; and yet, he thinks one acre of Catawba worth two of any other kind of the general planting, with few exceptions—Norton, Cynthiana, Herman and a few others—all grapes are subject to disease; thinks but very few are entirely exempt from mildew and rot, which seem to go pretty much hand in hand—rot is very likely to follow mildew. "This being the case, what are we to do? Simply grow those of good quality, that are least subject to these ills; plant them on well-drained land on fair exposures; not planting too close; keeping the vines open to admit the air, and thinning out the fruit when quite small, so as not to overbear the vine—and leave the rest to mother earth and the elements; and if we are to meet with failures occasionally, it is no more than the lot of everything else."

APPLES IN MISSISSIPPI.—A correspondent of *Our Home Journal* writes from Summit, Miss., June 24th: *Red Astrachan*, the very best apple of its season, middle of June. *Early Harvest*, a fine old variety, but for the past three years has been rotting and dropping from the trees. *Georgia Red June*, rots and tree blights. *Garretson's Early*, large and showy, every way perfect, ripe about 20th June. *Prinati*, no better apple of its season, season last of June. *Duchess of Oldenburg*, all right, season last of June. *Sweet Bough*, both fruit and tree sound and healthy, ripe June 20th. *Robinson's Superb*, very promising. *Rome Beauty*, shows signs of spotting. *Taunton*, "sound as a silver dollar," a great bearer, tree an open and straggling grower. *Roxberry Russett*, no better apple, sound and free from rot, season early August, should be in every collection.

Hale's Early Peach.

A GOOD deal has been said concerning the merits and demerits of Hale's Early Peach. The testimony both *pro* and *con*, go to show that, like many other fruits, while it proves satisfactory in some localities, it fails in others. In the controversy, it is conceded on all sides one of the best and most valuable peaches for cultivation wherever it does succeed. This being the case, it certainly should not be too hastily rejected, as we think it has been in some quarters. The Louisiana Fruit Growers' Association, in recommending a list of fruits, makes no mention of Hale's Early. The *Rural Alabamian* (a paper that we should think indispensable to the best interests of every farmer and fruit grower in the Southern States) very much doubts the propriety of such omission, for the reason that, while this peach has failed about New Orleans and along the Gulf coast, it has "succeeded to perfection in central and northern portions of Georgia, Alabama and Mississippi, in Western Louisiana and throughout Texas." But the *Rural South Land* thinks more money has been *lost* on Hale's Early Peach during the last five years, than on all other trees planted; that if mentioned at all, it richly merits an *unfavorable* "mention." To this damaging declaration the *Alabamian* puts in a rejoinder by saying:

"Twelve months ago, our opinion of Hale's Early was the same as that of our friend of the *South Land*, and that opinion was based on its almost total failure with us. But subsequent information satisfies us that the failure was confined to localities of comparatively limited extent, while over a much larger range of country it succeeded admirably; and, where it did succeed, it was esteemed the best peach grown. During the past season, we have had a very extended Southern correspondence on the subject of fruits, and from every point, except the section bordering on the Gulf, we have had the most favorable reports of the Hale.

"But, what of the Hale this season? There is a very general short crop of peaches in this vicinity—many varieties not bearing at all, and others but scantily. And yet, our Hales are bearing more liberally than any other variety in our orchard, and we are now (June 25) daily gathering as perfect fruit as was ever grown, fair and beautiful, without a worm or a speck of rot. In short, the Hale is doing better than any other variety in our orchard, and seems determined to reinstate itself in our good opinion. Will our friends in New Orleans tell us how it is doing with them? And we should be pleased to hear from all sections of the South in regard to this peach."

In its palmy days, Hale's Early Peach was a favorite in the Middle and more Northern States, but of late, as at the South, we believe its failure has been pretty general, so much so, that with many peach growers it has been totally discarded. We should be glad to hear whether it shows any signs of recuperation in this section of country.

THE FRUIT CROP OF THE COUNTRY.—According to the monthly report from the Department of Agriculture for July, the fruit crop of the current year is above an average. The apple crop in some of the states is reported very abundant. In this valuable product, New Jersey takes the lead of all the states. Taking 100 as the standard, New Jersey is marked 129; Nebraska follows with 124; Delaware, 120; New Hampshire, 117; Connecticut, 115; Tennessee, 114; Massachusetts, Rhode Island and Texas, each 110; Minnesota, Iowa, Kansas and Kentucky, each 106; Wisconsin is marked the lowest, standing at 80.

Trapping the Codling Moth.

VARIOUS devices have been recommended for trapping this insect—elastic bands about the stems of the trees, shingle traps, old rags in the forks of the trees, etc. No doubt persistent use of either will greatly lessen its numbers and depredations upon the fruit. There has been quite a spirited controversy, also, as to whether this moth can be caught in open-mouthed bottles, partially filled with vinegar, sweetened water, or other liquid nostrums, or attracted by light. We think C. V. Riley, State Entomologist of Missouri, in his last Annual Report to the State Board of Agriculture, pretty clearly settled this question in the negative—he says:

“I have elsewhere given it as my decided opinion that neither fires, lights or bottles of sweetened water, vinegar or any other liquid, can be used with any degree of success in fighting the Codling Moth, and I have good reasons for so doing. During the whole summer three years ago, I had a patent moth catcher, constantly, in a garden surrounded by several old apple trees badly infested with this insect, and I never caught a single specimen of *Corporcapsa pomonella*. The trap was made of bright tin, with an inverted cone so placed in a basin that I could attach a light, and fill the basin with sweetened fluid.

“Again, during the summer of 1870, I was in the habit of working till late at night in an office surrounded by apple orchards known to be badly infested. I worked by the aid of two large kerosene lamps, each having a strong reflector, and the light in the room was so bright as to form a constant subject of conversation among the neighbors. Insects of one kind and another would fly into the room by hundreds, and on certain warm, moist evenings would beat against the windows with such rapidity as to remind one of the pattering of rain. Yet during that whole summer I caught but one or two Codling Moths in that room, and there was more reason to believe that they had bred in the house than that they were attracted from without.

“At the same time I had hung up in an orchard close by, many wide-mouthed bottles, half filled with various liquids, such as diluted syrup, sugar water, and vinegar more or less diluted. Every two or three days these bottles would contain great numbers of insects, which were critically examined. Many of them would be small moths of one kind and another; some of them larger moths, known to be injurious; and many other insects—such as beetles, true bugs, wasps and two-winged flies—that were beneficial. Indeed, there were almost as many beneficial species, and as I shall presently show, the only two species yet known to prey on *Corporcapsa pomonella*, were among the more numerous victims of these hanging bottles. From my notes, I find that but three Codling Moths were caught in these bottles during the summer. Indeed, so small is the proportion of Codling Moths which I have caught by the above mentioned process, that the chances of their accidentally flying into such situations are about as great as of their being attracted. I might add further experience on this head, but it is unnecessary.

“Upon showing specimens of the Codling Moth to many dozens of eminent and intelligent fruit growers, who have had to do with apple orchards, and consequently with apple worms, most of their lives, I have seldom found one who did not candidly confess that he had never before identified the insect; and under these circumstances it

is not surprising that other similar moths should have been taken for the genuine article. The moth is, therefore, occasionally caught in such traps, and in the face of other intelligent testimony the fact cannot be denied, though the experience on this head of non-entomologists is conflicting. But whether we consider the few so caught are really attracted, or are captured accidentally, I believe that the methods indicated have no practical value. They are blind ways of shirking the more sure and efficient remedies.

"I have been thus explicit as to these would-be remedies, because my statement 'that the Codling Moth was not attracted (to any extent) by light,' has been recently quoted by Mr. J. W. Robson as an evidence 'that scientific men don't know everything.' It would be strange indeed if they did, and I have always labored under the impression, somehow or other, that they were the last to claim such universal knowledge, and that it was the charlatan alone who was blessed with the knowledge of everything."

Floriculture in the West.

IN an Essay on Flowers, to the Illinois State Horticultural Society, by Mrs. E. S. Hull, the writer says: The increasing fondness for and attention to the beautiful, visible about our country homes, is a pleasing and hopeful indication. Hopeful, because it shows our people are taking time to enjoy something of this bright world of ours, instead of seeming to consider, and almost making, it a valley of humiliation and incessant toil. Time was when most men appeared to regard "the West" as a temporary sojourn, in which they were to make fortunes, and then return to the old home, toward the rising sun, to spend and to enjoy; but, I think the gold they acquired was, to many, the true Lotus flower, which the ancients tell us, if once tasted of, caused forgetfulness of former country and love for the one where they were.

Those who came to stay awhile, found the "land pleasant to dwell in." The cabin gave way to the more substantial dwelling. Year by year new comforts were added. The necessary potato patch, generally in front of the house, expanded into a vegetable garden. From time to time the good wife appropriated small portions of this for her hollyhocks and lilacs. By-and-by new flowers were planted, and the beautiful encroached so rapidly on the useful, that the latter was finally banished to the rear, where, instead of receiving less, it received more attention than formerly, that all things might be in keeping. And now the family have a flower garden! A small thing, you will say, perhaps. Will never contribute to the support of the family, says the practical man. Possibly not in dollars and cents, but man does not live by bread alone; a little *pleasure* is needed sometimes to revive weary, drooping nature; and who shall number the many innocent joys our garden shall afford? Not a garden made classical with statues and rare works of art, delighting in secluded walks, cool grottos, or sparkling fountains; but simple and unpretending in its character, and narrow in its area; still, it has its sweet and not transient pleasures; and many days of gloom and hours of monotonous toil will be relieved by pleasant reveries on the flowers that were, and fond anticipations of those to come."

Vineyard Notes. Best Grapes near the Ground.

THE editor of the *Pacific Rural Press* (and, by the way, one of the very best papers that comes to our table), on a recent tour among the extensive vineyards about San Jose, notes down much of a general interest to grape growers everywhere. One, among the vineyards visited, was that of Mr. D. M. Howard, where 140 acres were found covered with the vine. Mr. Howard had planted largely of the Catawba, in the commencement, but with results not very satisfactory under the usual practice of pruning and training. Under a different mode, however, it bids fair to become one of the most valuable wine grapes of the State. Says the *Press*:

"Like many other wine growers of the State, Mr. H. had concluded that the Catawba grape could not be made to pay for wine or any other purpose in California, on account of its being so shy a bearer, and had cut down many of his vines of this variety and grafted them with other and better bearing kinds, and intended in this way to get rid of them all.

"Mr. Schindler who has worked in the Catawba vineyards about Cincinnati for a number of years, protested against this course, and induced Mr. H. to spare two or three acres of Catawba vines and allow him to prune some of them, with a view to increasing their productiveness. We went out to the vineyard to see the result of the experiment, and we assure our readers it was most astonishing. The usual course of short pruning—cutting back the canes intended for fruit, to from two to three buds, had been followed with all the Catawba vines in the field, except four rows. These four rows had been pruned by Mr. Schindler after his plan. He cut all the canes of the last year's wood, except from four to six of the strongest, according to the strength of the vine, off close to the old wood. These four or six canes left, he cut off about three feet long and tied them loosely to a stake until the spring cultivation was done. He then cut the string and laid these canes down on the ground, spreading them around the body of the vine as much as possible, so that one would not lie upon another. And now for the result. On the vines pruned in the ordinary way, we could find but a few scattering, poorly formed, and poorly filled bunches of uneven sized grapes, not to exceed, on an average, from five to six pounds to a vine. While the vines, pruned as above described, were loaded as we have scarcely ever seen vines loaded before. Each cane had thrown out side branches at each joint, and every one of these side branches were crowded full of the finest formed bunches of Catawba grapes we ever saw. The bunches were compact, long and full, and the vines will average from twenty to forty pounds each. Mr. Schindler assures us, that by pursuing this system of pruning from year to year—cutting off the old canes each year and leaving a proper number of young canes for fruit, the Catawba can be made one of the most prolific bearers, and the grapes are much improved for wine purposes. All wine growers should see the result of this experiment to appreciate it.

"In speaking of this matter to Dr. W. S. Manlove of Sacramento county, he told us that for the last three years he had been pursuing the same course with his Catawba vines, and with the same result. To obtain the best results from this system, the head or crown of the vine should not be over a foot or eighteen inches above the ground, so that the grapes when growing may lie directly upon it. We find that

it is becoming the opinion of many of the best wine growers in the State, that vines generally will do better by leaving the bearing canes longer than it has generally been practiced, and Mr. Schindler shares in this opinion. Longer canes and fewer of them, is the coming rule, and more wine and less alcohol is the claimed and desired result."

The method of training the Catawba, as practiced by Mr. Howard, related in the above quotations from the *Press*, so far, at least, as relates to permitting the vine and fruit to rest flat upon the ground, is nothing new in the management of the grape vine. The same was practiced in France many years ago, and, it appears strange that, if followed with results of so much importance to the highest development of the grape for wine or other purposes, it should not have been more generally adopted long since by the wine growers of California. Some fourteen years ago we gleaned from the proceedings of the Cincinnati Horticultural Society the following letter, and which may be of interest in this connection. It was received at a meeting of the society, from Mons. J. Fournier, chief director of Mr. Longworth's wine cellars:

R. BUCHANAN, Esq.—*Dear Sir:* I send you a translation from the *Courier de la Champagne*, about vineyards and wine:

"I made, this year, an experiment for my own satisfaction. I kept some grapes twenty-five millimetres above the ground, and the others three feet. The most of the first gave ten degrees of barometer; the second, nine and a half degrees. I have repeated this experiment several times. There was no difference in the result. You can see by the density of this must, that an elevation of twenty-five centimetres from the ground reduced the saccharine matter one-twentieth. This experiment proves how deficient the wine is, produced by the vines elevated on trees.

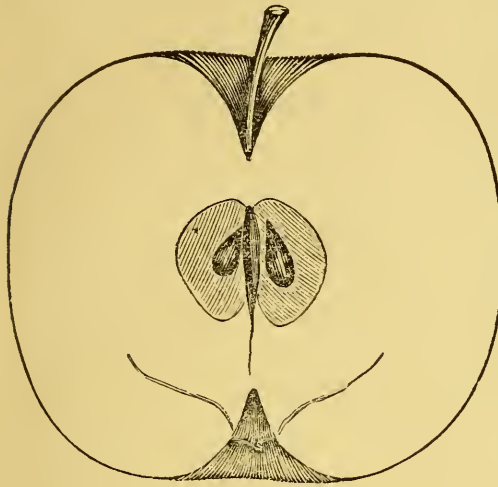
"I have remarked that the Riresaltes Muscat Wine had a taste very similar to dry grapes; though this wine has been made with grapes not very ripe. This is the reason: It is a usage at Riresaltes to let one branch of every stalk of vine spread along on the ground. The grapes of these branches are reaped first and dried, communicating to the Muscat the particular and celebrated taste that distinguishes it from every other wine. I should like to see some intelligent vine-dresser of this country make this same experiment.—J. FORNIER."



THE YELLOWS IN PEACHES.—A correspondent of the *Gardener's Monthly* says: A lady finding some coal dust in the cellar of a house she had rented, ordered it thrown around a forlorn old peach tree in the yard, which she expected to have cut down; but its new dressing seemed to inspire it with life. It soon put forth an extra growth, and a fine crop of peaches. Perhaps the sulphur in the coal imparted health to this "ancient citizen," or exterminated its enemies—the worms. There is an acid apparently in coal, which destroys the fish in the Schuylkill. Perhaps it is this acid the peach needs, as Prussic acid is found in the kernels of its fruit.

Sops of Wine.

WE are under obligations to Mr. Jonathan Huggins, of Woodburn, Ill., for a crate of the Sops of Wine. This apple is held in high estimation in the West by all who are best acquainted with it. Mr. Huggins regards it his most profitable, early summer apple; his crop sold this season at \$2.50 per bushel. He understands



it to be the old Sapsavine of the East. We have not fruited it yet, but find the tree a splendid grower; and are told by those who have it in bearing, that the tree is faultless, being perfectly hardy and healthy, comes into bearing young, and is very productive. Judging from the price mentioned, the fruit must be very popular in the market, wherever known. Its synonyms are—*Warden's Pie Apple*, *Washington*, *Bennington*, *Sops in Wine*, and *Sapson*. The accompanying illustration represents a medium sized specimen. Some of the specimens from Mr. H. were much larger, some smaller.

Tree spreading, vigorous, hardy and an annual bearer; skin yellowish, nearly overspread with streaks of bright purplish red, in the sun highly colored, sparsely sprinkled with minute grey dots; flesh yellowish white, marrowy, juicy, pleasant, mild sub-acid; basin shallow to medium (the illustration shows it too deep); cavity narrow, medium depth; stem very long and slender. The Sops of Wine is evidently doing better here than in the Eastern States. Cole says of it—"beautiful, but neither excellent nor profitable." So far as we learn, it is one of the *most* profitable here.

A Western Peach Orchard.

DR. HULL, of Alton, Ill., is reputed to have the best managed peach orchard in the West—in fact a *Model Orchard* of 1800 trees, located on the bank of the Mississippi river, and at an elevation above the level of the water of nearly 300 feet. The *Alton Telegraph* says: "At the lowest calculation, his crop will not fall short of ten thousand baskets, and let the general crop be what it may, let ordinary peaches go begging for buyers at from 25 to 50 cents, these ten thousand baskets will find a ready sale at from 75 cents to \$1.25. So much for pruning and thinning, careful picking and packing.

"The Doctor began pruning in early spring, taking out old surplus branches and leaving only what was needed for the perfect development of the fruit. Last month he found that, with all his care, there was still too much fruit, and took away about three-quarters of that remaining, thinning according to varieties, but intending to leave from 600 to 1,000 peaches on each large tree."

Pruning for Timber.

BRYANT, in his excellent work on *Forest Tree Culture*, gives the following directions for pruning trees designed for fence posts and other timber purposes:

"In pruning young trees designed for timber, the symmetry of their form is the first consideration. When taken from the seed-bed all side branches should be cut off. Subsequently, an annual examination will be required to see that they grow in proper shape. Only one leading shoot should be allowed, which must not be permitted to fork. All side branches which approach in size and vigor to the leading shoot should be shortened or cut out entirely. The black walnut, butternut, tulip tree and chestnut are apt to throw out large side branches, which take too much from the growth of the leading shoot. Suckers from the base of the tree should be cut away. Where suckers are thrown out in consequence of the stem of the tree being unthrifty or injured, the latter may be cut off and one of the suckers allowed to take its place. In close plantations the trees may be trimmed up two-thirds of their height, but too many branches should not be taken off at once. Some kinds of trees require but little pruning. If properly treated while small, they will require less attention in this respect as they grow larger; and when their branches interlock, and their stems are thickly shaded, they will need little, if any, pruning. It should always be borne in mind that the main object in pruning forest trees is to give a proper direction to their growth. In an artificial plantation, properly managed, a great majority of the trees will be of value for timber; in a natural forest the reverse is usually the case—the greater part being fit only for firewood."



Plumb's Cider, Walbridge, Etc.

IN a paper to the Nebraska State Horticultural Society, F. R. Elliott, Cleveland, Ohio, asks: "Why is it that the old apple known for years, and long cultivated as Smith's Cider, should be brought out as Plumb's Cider?" Is it possible that we "Westerners" have been humbugged for years in this matter—that the two apples mentioned are identical, as intimated by Mr. E.? We have never seen the apple called Plumb's Cider; Smith's Cider we know. We should be very glad to receive specimens of fruit grown under both these names, for comparison. We believe Mr. J. C. Plumb, of Milton, Wis., claims to have originated what is called Plumb's Cider. Will Mr. P. have the kindness to tell us what he knows about it, and favor us with specimens of the fruit.

Mr. Elliott further queries: "Why should the apple first described as Utter, be now called Utter's Cooper? Why, if you are satisfied that the apple brought out and named Walbridge, because it was then unknown, is, in truth, Cogswell, should it longer appear as Walbridge? Such ignoring of pomological, or all scientific rules, must result in adding annoyance and confusion beyond estimate."

Unfermented Wine.

A CORRESPONDENT of the *California Agriculturist* gives his mode of preserving the juice of the grape, or the juice of any other fruit, free from fermentation, for any length of time, which we suppose amounts to unfermented wine. Though the process differs little from the usual method practiced in the canning or bottling of fruits for preservation, we will give it in detail:

Gather clean, ripe grapes; strip them from the stems; put them into a stew kettle and bring to a boil; turn them into a sack, press out the juice; put the juice back into the kettle and bring it again to the boiling point; then set it off and with a funnel, fill it into bottles—champagne bottles are best—till they are full. My wife's mode of sealing is as follows: Have some strong muslin cut into pieces two inches square, as many as there are bottles to be filled; then melt some resin in a convenient vessel; add thereto sufficient tallow to render it slightly elastic, so that it will not break or crack in cooling and admit air. With this melted resin cover one side of the two-inch square cloth; lay it over the mouth of the bottle and with the hand press it down around the neck of the bottle; tie a little string around it, then put a little more resin over the top. If the work is properly done, I will guarantee it to keep from one to a thousand years—if not sooner drank.

Notes from Correspondents.

Haggard Brothers, Blooming, Ill.

Our apple crop here, for a few years past, has been almost worthless for keeping, on account of the Codling Moth, but they have nearly all disappeared this season. Our cherry crop was light this season, except English Morello, which were very full.

Robert Scott, La Porte, Ind.

The apple and pear crop is up to the average about here. Both apple and pear trees show more blight than ever before. The most affected among pears is the Vicar and Glout Morceau. Beurre Clairgeau entirely free from blight.

G. B. Brackett, Denmark, Iowa.

Blight on apple trees. Apples scabbing badly, almost all kinds. The old New England Baldwin is free from it, and appears the most promising of anything in my orchard—very full and large; I shall have to take it up again and propagate it in nursery. I never had a better prospect for apples in the spring, but now it looks very poor. They have fallen off, till now the ground is covered with them of all sizes. Wet weather cause of scab, and dry lately cause of falling. I think pears a light crop. Mammoth Cluster Raspberry has done remarkably well—are distinct from Miami.

W. B. Lipsey, Marion, Ind.

Apples a good crop, and less of the Codling Moth than in years before. Thousands of barrels will be for shipping from this and adjoining counties. Peaches a total failure. Cherries were a very light crop.

H. Strohm, Iowa City.

Blight fully as bad as last season—very bad on Transcendent Crab, likely to destroy them all. Apple crop not so good as last year, Codling Moth quite as plenty.

Early apples plenty and cheap; the failure is in the winter apples—and yet, in some orchards, the crop is better than last year. Red Astrachan has done better than ever before.

O. S. Willey, Madison, Wisconsin.

Scab and tree blight far less than last year, but the Codling Moth has no end to its labors—are very numerous. In some neighborhoods the Canker Worm is appearing in great numbers. Fruit crop light.

A. Giddings, Sabula, Iowa.

Apple crop good, especially summer fruit; Red Astrachan, three or four years in the orchard, are full; Red June full, where the trees stand in cultivated ground—the fruit of trees in grass worthless; Duchess of Oldenburg full, even three-year-old trees in nursery rows bearing more or less. Of fall apples, Fameuse and Rambo are among the best. Winter fruit somewhat wormy; no scab, with the exception of White Winter Pearmain. No appearance of blight on anything. Pears doing well on sandy land.

T. E. Bundy, Springville, Iowa.

Apple crop not so good as last year, some varieties blighting, Transcendent Crab worst of all. Codling Moth not so plenty. Leaf Roller plenty in some orchards. Pear trees have made an unusually large growth, show a pretty good crop of fruit and very little blight.

Duling Sweet Apple.

We thank Mr. B. A. Mathews, Knoxville, Iowa, for a box of the Duling Sweet, as he calls it. Mr. Mathews says of it: "Has been in bearing with us here for nine or ten years, and has thus far proved hardy, a good bearer, and comparatively free from blight; was a good bearer in Coshocton county, Ohio, where it originated, and was popular as a market fruit." We do not know whether to call this apple sweet or sour, so nicely balanced is it between the two; it has rather a pleasant flavor, eats very well, and is nicely colored up. Downing says it is of English origin, and describes the specimens before us pretty correctly:

"Fruit large, roundish, and slightly angular. Skin nearly covered with deep crimson on a yellowish ground, or sometimes entirely red with a little russett. Stalk long, woolly, planted in a cavity broad and deep. Calyx large, in a broad basin. Flesh white, rather firm, juicy, with a somewhat rich and agreeable flavor—August."

Horticultural Reports.

We have received the Transactions of both the Nebraska and Ohio State Horticultural Societies for 1871, filled, as usual, with valuable and interesting matter. Aside from the business matter, discussion, etc., usual in such annual reports, we find several able articles, from which we shall glean.

Injustice to Nebraska.

In the report of the meeting of the American Pomological Society, at Richmond, by Geo. W. Campbell, to the Ohio Horticultural Society, injustice is done to Nebraska, in reporting the \$100 premium to Kansas; though no doubt a mistake, unintentional, on the part of Mr. C., it must be unpleasant to the party most interested, to thus appear upon the standard records of a State Horticultural Society.

Complimentary.

We have a pile of complimentary invitations to the Fall Exhibitions of State, District and County Agricultural and Horticultural Societies. Without special mention, all who have thus remembered us have our profound thanks. It would give us profound pleasure to put in a general appearance, but we "can't come it."



Editorial Notes.

Our Agricultural Editors.

Many journals, not especially devoted to agriculture, have obtained much celebrity, and not a little of their circulation, through the conduct of agricultural departments of unquestioned merit. In New York city, there may be said to be three political and three religious journals, whose agricultural departments contain more space than other papers of same character.

The *New York Tribune*, by reason of its circulation, and connection with Industrial Topics, Western Travels, Farmer's Clubs, Correspondence, and general devotion to the advancement of agriculture and gardening, has hitherto enjoyed the most prominence. In the death of Mr. Lyman, the *Tribune* lost a man of peculiar talent and ability; but it must be admitted that under the direction of the new agricultural editor, Mr. A. B. Crandell, the space devoted to agricultural topics has been vastly increased, the amount of information condensed into its columns is greater than ever, and credit must be given to the painstaking editor for a vast amount of hard work. The horticultural department is apparently discontinued, for we observe few or none of Mr. Quinn's articles. Horticultural articles, to exert good influence, or give a horticultural tone to a miscellaneous journal, should be a department by itself, and not scattered among matter of other nature.

The *World* is edited by H. E. Colton, a gentleman of much travel in the South, and long experience as a chemist. His department is well conducted, and with more originality, we think, than some of its secular rivals. Its reports of The Farmers' Club are also published one week in advance of all other journals. No city journal which wishes a good country circulation can afford to neglect its agricultural department, and yet none but first-class talent should be employed in conducting it.

The *Sun* has also in its weekly edition a full page devoted to agricultural topics, well handled by Andrew S. Fuller. It is also represented at the Farmers' Club, and publishes its weekly reports. It has gained largely in circulation within two years, and doubtless its attention to rural topics has been the means of great assistance in circulation. Of the other political papers, there are several containing some space, usually small, devoted to agricultural topics. None are of striking talent or originality, such as *Pomeroy's Democrat*, *Times*, *Herald*.

Among religious papers, there is usually found a column or so devoted to rural topics. These departments are generally well appreciated, because they afford a very agreeable variety to the other contents of the paper. The readers of these papers are generally the better class of farmers, and gentlemen of leisure, and who do not usually take agricultural journals exclusively. Often these agricultural departments are very ably managed, despite the opposition from some of the more jealous of the agricultural press.

The *New York Independent* has been generally admitted to possess the fullest agricultural department of any religious journal in this city. For the past few years it

has been interested in western progress, and the articles of its agricultural editor, on western travel, and other contributors on flowers and special topics, have been very generally and favorably commended.

The Observer and *Evangelist*, each devote a column or two of interesting matter to Rural Topics, the editors of which we know not. Out of New York city, we can commend two journals with special favor, as the best we are acquainted with:

The Press, Philadelphia, Pa., Thomas Meehan, agricultural editor, a really valuable journal, and its agricultural information in variety and practical nature, is equal to the best in the United States.

The Chicago Tribune, edited by M. L. Dunlap, every line of which indicates that the editor is a man of fertility of thought, and proficient in agricultural information. Other journals undoubtedly have good departments, but the above occur to us as the most widely known, and their editors recognized as men of merit and ability. Really, good first-class editorial talent for agricultural writing is now very scarce. An abundance of pretenders, glib writers, and unsteady agricultural contributors are found, but none of them are men of character, have no versatility of resources, nor the talent to fit them for the editorial chair. In these days when so many dishonest persons are found, who make money in a dishonorable way, by abusing the advantages of their position, the public should give more honor to those who are *really honest*, and aim to do the public good service. In our opinion those who have self-dignity, and are more concerned in *doing right*, and working (not pretending) for the *real good of the country*, are to be encouraged, rather than those who make most efforts to put themselves forward for conspicuous publicity.

Cutting off the Leaves of Strawberry Vines.

When we recommended this practice, two years ago, some expressed doubt and incredulity, but we have seen the practical benefits of it illustrated in so many examples, and confirming our ideas as to the value of the practice, that we feel well fortified. We observed lately, another testimony in our favor, from the pen of the editor of *The American Rural Home*, as follows:

"We are aware that the expediency of cutting off the vines of old strawberry plantations, after they have fruited, is a debatable question. We favor it for two reasons:—1. It facilitates cleaning them out. By cutting, raking up, and removing all the old vines and the weeds with them, we find it easier to cultivate or plow between the rows, and hoe among the plants. 2. The strawberry plant is really an *annual*, the vine and root living but one year. The life of the plant is perpetuated by offsets or stools from the roots, sending up new vines. Those vines that have borne fruit have fulfilled their mission, and may as well be removed, leaving a clear field for the growth of fresh vines.

"Our neighbor, Mr. Pillow, three or four weeks since, removed all the old vines from a large plantation of Triumphes, and gave it thorough cultivation; and now, notwithstanding the very dry, scorching weather that has since prevailed, there is a fine growth of young vines giving it the appearance of a new plantation. He has practiced this course to some extent, for two or three years, and he thinks with good results.

A Curious Trial.

Mr. J. B. Fennimore, of Middletown, Del., has undertaken the trial of forwarding a crate of choice Delaware peaches as a present to Queen Victoria. They were forwarded on Wednesday, the 15th August, by the steamship City of Limerick, Inman Line of Mail Steamers. The peaches are of the varieties known as Troths, Yorks, and Reeves Favorite, and separately wrapped in a paper prepared by a firm in Boston, for preserving from decay. Mr. Fennimore has made a series of experiments with the paper, and now makes the first bold experiment of transporting fresh peaches direct to Europe. He also shipped a crate to the Captain of the steamer, who agrees not to open it until in Liverpool, and acquaint Mr. Fennimore of the suc-

cess of the experiment. As it will be fully two weeks from time of shipment to time of receipt by Queen Victoria, we doubt the possibility of success.

California Fruit.

The business of shipping California fruit to New York, is not as uniformly successful as some would like it. For instance, the chief exporter of California fruit to the East lost \$10,000 the first year he went into the business. Last year he cleared \$25,000. The most profitable shipment of fruit made last year was to Liverpool—6,000 miles by steamer and rail. After paying all commissions and freight the fruit yielded a net profit as large again as the value in Sacramento. This year, however, California fruit shipped to New York, did not bring the actual cost of freight, selling for \$2 per box, when last year they brought \$5 and \$6.

Bartlett Pears. Peaches.

More discouraging news to fruit growers. During the last two weeks of August, Bartlett pears sold in New York for \$4 to \$5 per barrel, and peaches at less than 25 cents profit per basket over the freight. By this time Southern growers ought to be able to judge that the fruit business is overdone. Yet they say the peach crop is but *one-third* a full one. Heaven help everybody, if there ever is a full one. None but the consumer will be happy, and we doubt even if he will be, for the grocer and retail dealer will charge but little less than ever.

Potash for Peach Trees.

Instances have repeatedly come to our notice of the benefit of potash in growing peach trees, and curing diseased trees also. At a recent meeting of the Cincinnati Horticultural Society, a Mr. Shepard stated that he had a peach orchard of 25 acres, the soil of which was poor, and was manured with potash only. One barrel, costing \$35, or fifteen cents a pound, lasted him four years. He dissolved it in water, so that the lye would be so weak that a potato put in would not quite come to the surface, and then applied two quarts of this liquid close around the trunk every spring. From 2,000 peach trees he had sold during the past five years \$12,000 worth of peaches. His crop had been in 1867, 1,509 bushels; in 1868, 680 bushels; in 1869, 1,400 bushels; in 1870, 350 bushels; and last year, 1,800 bushels. He had also a good prospect for a crop this year, the buds being nearly all perfect.

This mode of applying potash has not often been tried before, and is just such an instance as we have long been hunting for, viz.: an example of the use of *pure commercial potash*.

Profits of Grape Growing.

In Pleasant Valley, the average price of grapes has been 4 to 8 cents per pound. At this price, vineyards barely yield \$200 per acre. Indeed, it would be a good vineyard which would yield this every year. In Delaware and Virginia, where grapes are very early, ten to fifteen cents is realized, or about \$300 to \$400 per acre. One small vineyard of our own, averaged this year from 200 vines, 1,500 pounds, which would give a total per acre of 3 tons, or 6,000 pounds. The prices realized were 8 cents per pound, or \$500 per acre.

We have just noticed several statements of large profits of grape culture in Missouri. When we were there last year, grapes sold for barely 5 cents, and we cannot understand the foundation of the large profits mentioned below.

One grower said his vineyard gave him a net profit of \$3,562 per acre; another, of \$1,500 per acre; a third, of \$2,000.

These figures can be realized only by wine-making, and in this there is needed large capital, skill, experience, together with good soil, and ability to create a good market for one's brands. No ordinary cultivator can reach such figures.

School Gardening.

Among "horticultural novelties" of late days, we have seen nothing so novel or so sensible as the following: At a recent meeting of the Potomac Fruit Growers' Association, the subject of "school gardening" was introduced. One gentleman gave the description of a German school, where the little children were instructed in this branch of rural art. In the rear of the school buildings there was a large garden which was divided into squares of about 125 feet each, and which was entirely devoted to the use of the pupils. Those scholars who distinguished themselves in behavior, application, etc., were picked out and divided into clubs of three. Each of these clubs was assigned the use of one of the aforesaid squares, which they were to cultivate themselves with flowers, vegetables, and various kinds of fruits. The tools were furnished by the school, while the scholars found the seed. During the recess, instead of climbing about or indulging in other dangerous plays, it was the greatest pleasure of the scholars to work in their garden. Those who did not take particular care of their portion were dismissed, and others put in their place. On that account each scholar tried to excel the other, while each tried to lay his portion out in the most handsome design; of course each wanted to have the prettiest flowers. In fact, it was a pleasure to look at the garden, with as many different designs as there were squares, each filled with the most beautiful and fragrant flowers, and making itself a great instructor.

Credit.

We are usually very careful in giving credit. During an editorial experience of six years, only one person has called us to task, and this is recently, *The Ohio Farmer*. An article appeared in its columns, "*How the big pears are raised.*" We quoted this, but credit was not annexed, we presume an unintentional error, or possibly the name was left off by printer. We give due credit to it now.

Parsons & Co.

This old firm has been dissolved, and has now become "twain"—one-half of the stock is retained by Robert B. Parsons, while S. B. Parsons & Sons take the other half, and have established a new nursery at Kissena, a station on the new Stewart Railroad in East Flushing.

The Fountain Plant.

The experience of the year seems to determine two points with this ornamental plant. In *habit of growth* it is fully equal to all that was promised of it; but in color it is a dingy, dirty, brownish red. We think there is still room for a better amaranth color.

The Ives Grape.

The Concord at last has a rival. We welcome it. The Ives is making friends. For an early grape, to market before the Concord, we know of none better. Usually there is a period of a week or ten days when grapes, which arrive in the market before the Concord, get higher prices. At such a time the Ives comes in and fills the demand. Usually it is a week earlier than the Concord. It is very prolific, healthy, and an admirable shipper; bears handling well; does not bruise, neither drops from the bunch, while it can be made into marketable wine, which the Concord cannot. It has grown in our opinion yearly, as we have seen its favorable reception in the markets here. We find also from other horticultural editors, similar concurrent testimony. The editor of the *Rural Alabamian* says: "We have had the Ives in full bearing only two years, but from that short experience, we consider it a grape of very great promise. The vine is remarkably healthy and vigorous; bunch large and very compact; fruit large, black, sweet and vinous, with a peculiarly tough skin. This latter quality makes it valuable for transportation to distant markets. It commences ripening with the Concord, but does not attain perfection until the Concord is gone, and should be permitted to hang many days on the vine after appearing ripe. It is not equal to the Concord in size and beauty of appearance, nor is it so

good for the table; but it is superior in keeping qualities, and for distant transportation, and probably for wine."

Dr. Swazey, horticultural editor of the *Rural South-Land*, also endorses it, and speaks as follows of some specimens sent to him: The Ives is as fine as we ever saw, and confirms our previous good opinion of it—the bunch and berry being nearly equal to the Concord in size and quality, and having the advantage of ripening two weeks earlier and continuing on the vine longer. As a wine grape, or as a market grape "for the million," to come in before the Concord, we should prefer the Ives to any other single variety.

Lilies in Oregon.

The *Lilium Auratum* has found its way to Oregon, and is delighting the citizens. In the garden of A. R. Shipley, Portland, Oregon, the *Oregonian* says there is a golden-banded lily—*lilium auratum*, which is something of a wonder in its way. It is now in full bloom, and consists of one stem, five feet ten inches high, without a branch. Pushing out of this single stem are twenty-eight perfect buds, fifteen of them fully expanded, the others are not yet open. The full sized flowers are ten inches in diameter, fifteen of the buds push out at the same height, three feet three inches from the ground, the others at intervals to the top. It is a most magnificent specimen.❁

Meehan's Nurseries.

We should have made mention ere this of Thomas Meehan's new nurseries, at Germantown, Pa. Mr. Meehan is one of the most painstaking collectors of native seeds and plants that we have; and likewise in evergreens, new and rare, we doubt if any one has a larger variety. Most of his stock is grown solely for the supply of nurserymen; but with so good a location upon Germantown avenue, it is not a wonder that he has opportunity for a good local trade. Whether botanizing in the Rocky Mountains, or riding on the cow-catcher of a locomotive in a western excursion, catching grasshoppers, or at home as a nurseryman and editorial writer, his talents are "bound to win."

Return of the Fugitives.

Those fugitives from scenes of American horticulture, who spent the summer in "the mother country," returned home August 25th. Quinn to his pears (strange it is not "pair." Bachelors never do "take"). Bliss to blissful home scenes, and Hoopes to be hooped up for another year in his big nursery.

The Rural Club, N. Y.

The members of this honored and social organization enjoyed a pleasant picnic, August 6th, at the flower farm of C. L. Allen, Queens, N. Y. Upwards of 75 guests were present, whose eyes were regaled with the sight of over 50 acres of flowers in bloom. Each guest on going away was presented with a massive bouquet of cut *Gladiolus* and *Lilies*. It is but a few years since Mr. Allen began the culture of bulbs as a lover of flowers. To-day, we suppose the bulbs grown on his place are numbered by the million. One good result of this extension of bulb culture, is in the cheapening of prices. *Gladiolus*, choice varieties, can now be obtained at \$1 per dozen, where formerly they were worth \$1 each. Among the incidental features of interest at Mr. Allen's place, are a row of six new greenhouses just erected; a large bed of subtropical plants; a fine display of double *Portulacca*, *Clanthus Dampierii*, and hundreds of beautiful lilies, climbing vines, and hanging baskets. As usual, speeches were made by the club before adjournment, but no papers of special interest were read.

New Tuberoses—The Pearl.

We are sure no flower novelty in many years is so well worth all enthusiastic mention of it as the *The Pearl*, new *Dwarf Double Tuberoses*. It is very sweet, a strong, stout grower—easily grown, and admirable as a house plant. Was first introduced by John Henderson, of Flushing, L. I., but is now obtainable from almost any nurseryman.

Horticultural Notes.*Farmers' Gardens.*

As a general thing, we see the same forms of beds and ridges as were common fifty years ago, some at least one foot high, and that, too, on our porous sandy soil. Now, if either should be higher, we would elevate the walks, and thereby we have the benefit of the showers, thus utilizing the resources for growth, and avoiding the collection of water in the walks and alleys; besides this, it requires much hard labor to make those high ridges and beds, and when made, they do, with their inclined surface, throw off much of the water that is of vast account, especially in a season of light showers or drouth.

Have the garden so arranged that it can be cultivated by horse power. Select a suitable piece of ground where you can have good turning room at each end; then lay off your rows clean through. I find it pays to lay off the rows with a line, so as to have them perfectly straight, and of uniform width. In these rows plant your vegetables—early potatoes, peas, beans, tomatoes, sweet corn, cabbage, etc. Now, if you will run through these rows at least once a week with the horse and cultivator, the hoeing will be a comparatively light job, and can be done by the children. Besides, the frequent and thorough stirring of the soil will give your "truck" a much more vigorous and thrifty growth than the cultivation it usually gets in the garden. This is the method pursued by nurserymen and market gardeners, and I am sure its practical adoption by farmers would be a great improvement on the little square "garden full of weeds" now so common.—*The Tribune, South Bend, Ind.*

Lawn and Garden Plants.

The *Irish Yew* is a beautiful evergreen for the center of a circular bed of shrubbery, and the *Yucca* or *Adam's Needle*, when planted in rock-work, or in a large circle on the lawn, in rich loam, is an effective object, particularly lovely by moonlight. It is aloë-like, with narrow leaves clustering near the ground, and sending up stems from four to eight feet high, covered with large, cream-colored, drooping, tulip-like blossoms in August or September. Plant about a dozen in a large circular mound, and they will give much satisfaction. This plant was the pride of the old time gardens, but, like the stately Lombardy Poplar, has almost disappeared in these latter days, when the improved or depraved—which?—taste has a tendency for novelties that are "far-fetched and dear-bought."

Among other fine bedding-plants and shrubs, I must recommend strongly the *Crimson Crape Myrtle*, and the new variety, pure *white*; the contrast is striking and effective.

Also, the new *Dwarf Pomegranate*—a hardy (in this region), free-blooming, rich colored plant. I have seen pomegranates, with little protection in very cold weather, bearing good crops of fruit, in Southern Maryland and on the Eastern Shore. The fruit is esteemed by some as a choice delicacy, but the plant is most generally cultivated for the beauty of its flowers.—*Am. Farmer.*

Ancient Briton Blackberry.

This variety has been highly praised in Wisconsin by competent judges. F. K. Phoenix writes *Western Rural* that it is of fair size, very productive and of excellent flavor. So far as heard from it has proved hardy in that region, Bloomington, Ill. Mr. F. quotes Charles Downing as having recently written of it that it is the sweetest and richest blackberry he ever ate.

Apple—Best Kinds for Profit.

In an article on Marketing Apples, "*Rural*," of the *Chicago Tribune*, says of the Red Astrachan: One orchardist has sent 100 bushels of Red Astrachans forward, and had as many more. They had averaged, at the orchard, 75 cents per bushel,

exclusive of the packages. He had about 40 trees, that had been planted from 10 to 14 years. This variety, it was stated, was not an early-bearer, but, on attaining size, produced good crops. The same party spoke highly of the Sops of Wine, which, he said, came next in order of ripening, and on the whole, was more profitable, the trees produced much younger, and better annual crops. The Early Harvest is the first to go to market, but it is not a constant bearer, and the profits are not so large. It is one of the most widely-disseminated and popular varieties, and yet must give place to the two previously named in an orchard for market.

Value of Shelter Belts to an Orchard.

At a meeting of the Champaign County Horticultural Society, one farmer reported that of a few trees he had 15 bushels blown off in one storm, while his neighbor, who had shelter belts about his orchard, experienced no loss.

New Early Peach.

The *Prairie Farmer* has seen a new peach three weeks earlier than Hale's Early, which originated with Mr. Alexander, near Mt. Pulaski, Ill. It is said to be a very fine peach.

A Lucky Strawberry Bed.

The *Red Hook* (Duchess County) *Journal* gives the following figures as to the result with nine acres of strawberries grown at Madalin in that town:

The culture is made from about nine acres of land, cultivated in three sections by three owners. Of this land about three acres bore its first crop, and a little more than three acres yielded its second crop, and the remainder of the nine acres its third crop. The entire crop amounted to 27,785 quarts, or about 865 bushels, a yield equal to 96 bushels per acre:

Team work and labor.....	\$675 86
Manures	300 00
Hay and straw for mulching.....	300 00
Interest on capital and tax	109 00
Picking and marketing.....	682 04
Freight, traveling, etc	400 50
Commission	200 75
Team work.....	50 00
Wear of crates and baskets.....	100 00
Total cost of crop.....	<u>\$2,818 15</u>
Crop 27,786 quarts of berries at an average of 22 cents.....	6,112 92
Deduct expenses ..	<u>2,818 15</u>
Profits	<u>\$3,294 77</u>

The results are unusual, for we doubt whether any other cultivator near New York has obtained any such prices. The average of 3,000 quarts per acre is fair. Beginners will please observe the very large expenses, \$300 per acre.

How to Select Norway Spruce.

The *Gardener's Monthly* calls attention to the beautiful appearance of some specimens of the Norway spruce when the crimson buds appear, which afterwards develop into seed cones. The crimson buds it explains to be the female flowers, while those which are of a yellowish brown, and much smaller than the crimson, are the male flowers. To select trees which will be most prolific in these crimson buds in spring

time, and afterwards in cones, the following rule is given: "Trees with the highest degree of vitality have a greater feminine character, and in the Norway spruce those with the highest conditions of vitality push into leaf first. By this rule any one may select those which will in time have this beautiful blooming character. The early leafing plants are the ones to take."

To purchasers who must order their plants from a nursery, this rule will be of small avail unless they can go in person to the nursery, and also be there at the time when the first buds are pushing out. In all other cases they must depend upon somebody else's choice; hence, we are afraid the rule will not be followed largely.

The best way, generally, to do, is to buy a supply of plants when quite small, and grow and train them yourself in nursery rows for some years. Then when they are wanted for the lawn, the rule will be of service. But if the purchaser don't happen to get a large proportion of those which Mr. Meehan describes as bearing female flowers, he can still be satisfied, because in any event—flowers or no flowers—well trained Norway spruce are at all seasons among the most beautiful objects in nature.

The Red Astrachan Apple.

In the American Pomological Society reports, the Red Astrachan is put down as worthless all over Iowa. Whereupon D. W. Adams writes to the *Iowa Homestead*, that this is not so, and that the American Pomological Society is inexcusable for disseminating such an error. I say inexcusable, for the horticulturists of this State have decided through the State Horticultural Society—and this decision stands unchanged year after year—that the Red Astrachan is one of the three best summer apples for general cultivation in two-thirds of the State. There is probably no summer apple which, at this time, is being so extensively planted in this State, nor one which has attained such an extended reputation for general good behavior.

The tree is a moderately stout, symmetrical grower, forming one of the most beautiful and healthy trees in the whole orchard, and is hardy enough to endure the winters of the extreme north part of the State. Except in a few localities it bears good crops of fruit, so large, fine, early and beautiful as to command the best price in the market. Especially in the extreme north is its productiveness most noticeable, for here on alternate years it is literally loaded down with its enormous crops of crimson beauties. There is no early apple which can be compared to it in uniting so many good qualities of tree and fruit, unless it be the Sops of Wine, and that is comparatively little known.

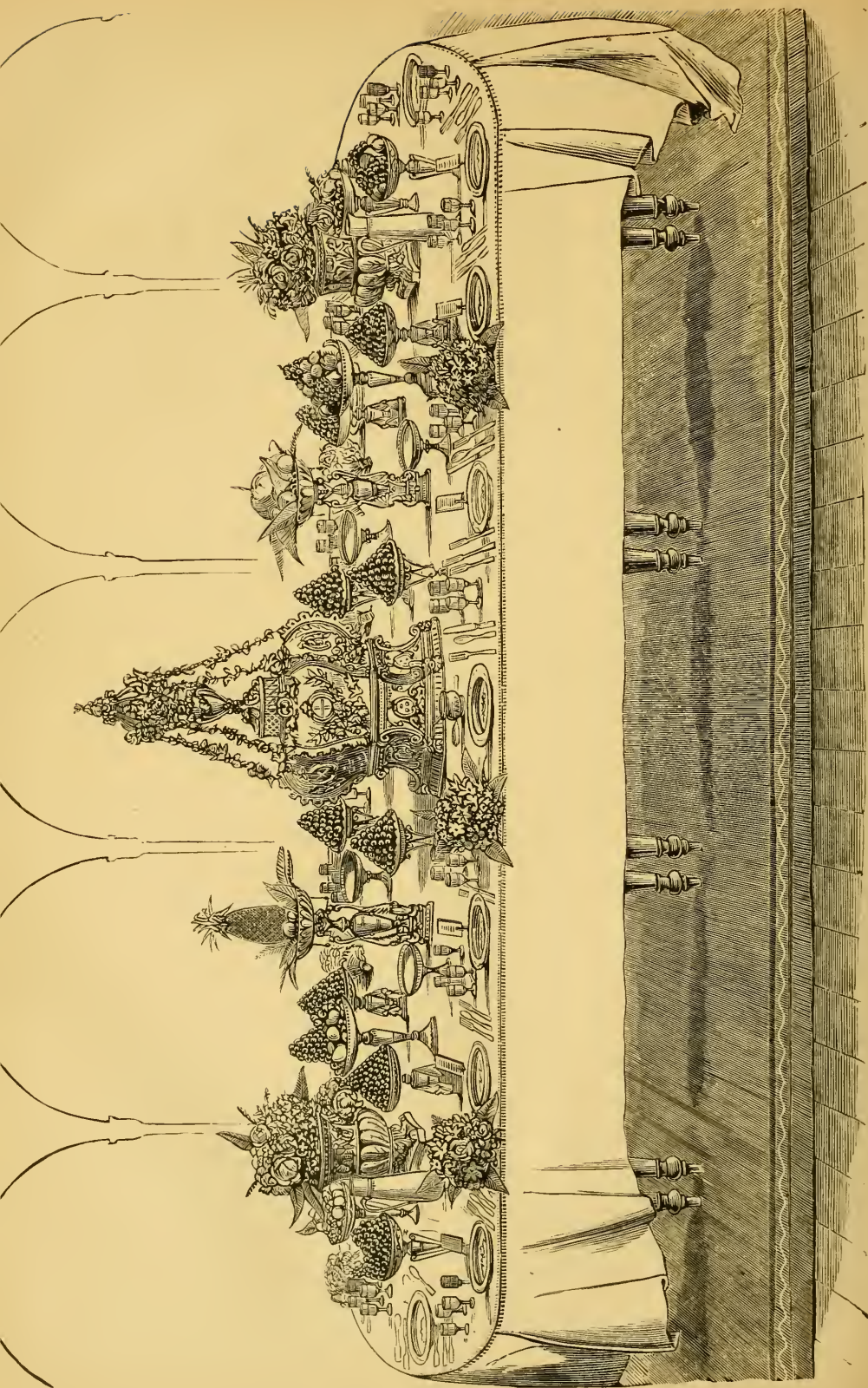
The Rattlesnake Melon.

The Mobile Register says: The finest watermelons that we have seen this season were grown by Mr. John Williams, of Chunchula in this county. They are a new variety for this region, called by him the "North Carolina Rattlesnake Melon"—we think he obtained the seed from North Carolina only a year ago. Shape, "long;" color, light and dark green pied; rind, thin but strong and well suited for shipping; meat, red, and of a delicious sugary flavor. They attain to a very large size—we saw one a few days ago that weighed 57 pounds.

Catalogues Received.

- Richardson & Vail, Geneva, N. Y., Fruit and Ornamental Trees.
- Henry Michel, St. Louis, Mo., Autumn Catalogue of Bulbs.
- Henry A. Dreer, Philadelphia, Pa., Autumn Catalogue of Bulbs.
- A. Bryant, Jr., Princeton, Ill., Retail Catalogue, Fall 1872.
- A. Bryant, Jr., Princeton, Ill., Wholesale Price List, Fall 1872.
- J. B. Jones, Macedon, N. Y., Wholesale Price List, Fall 1872.
- Stark & Barnett, Louisiana, Mo., Catalogue of Pikes Co. Nurseries.





A DINNER TABLE, DECORATED WITH FRUIT AND FLOWERS.



VOL. 27.

NOVEMBER, 1872.

NO. 317.

Those Big Pears—Notes of Editorial Travel.

PEAR growing at Norfolk, Va., has assumed some aspects which are peculiar in fruit culture. Most of the pears now grown are on large farms, rather than places of small extent. Several farmers have as many as fifty acres devoted entirely to pears, and we have even heard of one case where an entire farm of 160 acres had been planted. Near Norfolk, Mr. John B. Whitehead has an orchard of 5,200 trees. Mrs. Wier has nearly the same, and Mr. G. F. B. Leighton, 7,000 trees. We visited Mr. Leighton's place recently, on our return from Virginia, and witnessed the identical spot and trees, where were grown "*those big pears*" which gave Mr. Leighton such a name and fame at Richmond, and since then at Philadelphia and Boston. There is no especial secret or extraordinary means used to produce them. One tree of the Duchesse, growing upon a heavy clay soil, was selected, four years old from planting. All the pears on the tree were thinned but three, and these were the entire crop of the tree. They weighed respectively as follows: *two pears* 30½ ounces each, and one pear 24½ ounces. Besides the natural fertility of the soil, Mr. Leighton gathers wood-marl and muck and composts it with lime, and spreads around his trees. Now he is composting bones and potash and ashes together, for the same purpose, as a fertilizer for the trees. It is scarcely necessary to say that Mr. Leighton's principal variety is the Duchesse, which forms, perhaps, three-fourths of his entire stock of trees. They are of various ages, from three to five years planted, and most of them were in bearing at the time of our visit. Trees at five years of age bore an average of a bushel and a-half a piece, and very many of them two bushels; trees of three and four years, a basket to a bushel.

Most of these pears were sent to New York, and realized \$7 to \$9 per bushel. Last year one single bushel was sold, as a curiosity, to a Broadway dealer, who paid \$12 for it, and on counting them there were found to be but forty-eight pears, or at the rate of twenty-five cents per pear. They were resold again for fifty cents a piece.

None of Mr. Leighton's pears have sold, at any time, for less than \$4 per bushel, and most of the time have averaged over \$5 to \$7.

The pears are all very large, fully averaging over half a pound each through an entire shipment; and, as care is taken to have no poor specimens, his brand is counted a superior one in the market. Next to the Duchesse is the Bartlett, all of his trees being thrifty and very productive. His shipments to New York brought him \$11 per bushel. Each tree, four to five years old, averaging two peach baskets.

We noticed an experiment on his place with a curious fertilizer, which Mr. Leighton is using with great success—the *black pea*. This is sown all over the ground, between the trees, and when bean pods are nearly ripe, the plow is put in and all are plowed under. It has proved to be a splendid fertilizer. Its leaves seem to gather ammonia from the atmosphere, and its roots, running deep into the subsoil, gather nourishment usually out of the reach of other crops; and thus, bringing new fertilizing material into the surface soil, it becomes an immense benefit.

Among other pears (for sixty varieties are being tested), Mr. Leighton gives especial favor to the

Clapp's Favorite.—This is really one of the handsomest trees on the place; leaves quite healthy; branches stout and vigorous. The pear is exceedingly pretty; very early, fully ten days before the Bartlett, good size, handsome shape, red cheek, and more uniform in outline and size than the Bartlett. He thinks it the most profitable early pear we have. Has no trouble with rotting, for the pear is picked while yet hard, and before ripe, and permitted to color up in the house or on the way to market. The standard trees are very much slower in coming into bearing than the dwarfs, which begin at a very early date, and are quite productive. He says it is the handsomest pear he ever saw. It is a singular criticism on the tastes of New York buyers, that when sent to New York it brought less than half the price of the Bartlett, or \$5 for former per bushel against \$11 for the latter. He thinks it little use to plant any market pear ripening earlier than this.

The Souvenir du Congres is a very fine grower; as good in this respect as the Bartlett, also ten days earlier; has a handsome carmine cheek, and very large size. Trees not yet fruited enough to determine their productiveness, but has hopes that it will prove as fine an early summer pear as the *Clapp's Favorite*.

The Mount Vernon is represented in one handsome tree, three years old; very thrifty; hardy; perfects its wood well; holds its leaves in hottest sun.

Beurre Superfin, as a dwarf, is quite productive, and has a sprightly champagne flavor with spicy acid taste, which, together with its handsome form, will make it valuable. He enjoys it, as a pear to eat, as more refreshing than any pear on the place. Ripens at same time as the Bartlett.

Beurre d'Anjou is moderately productive; three trees, five years old, bore but 1½ bushels; considered not more profitable than the Duchesse.

Osbond's Summer produces very well; is ten days ahead of the Bartlett; not prepossessing in appearance, nor better than the Clapp's Favorite or Doyenne d'Été.

Bloodgood—Thrifty grower; only second rate in productiveness; flavor sweet and excellent, but fruit is hard and does not ripen well.

Beurre Clairgeau—Handsome color; pears hang on well with him; quality only medium; would not risk it as a market pear over some others.

Doyenne d'Été—Has shipped them as early as the 24th of June. It reddens up very handsomely; quality fine; fruit small, about the size of a large walnut with green shell on.

Nouveau Porteau—Not productive, although tree is a vigorous grower.

Beurre Hardy—Pears dried upon the tree; loses its leaves early; condemned.

Lawrence—Very handsome grower; hardy; thrifty; healthy; looks best of the late varieties.

One principle is stated by Mr. Leighton with distinctness: "That it is no use to grow a pear of one variety, if you can put in its place a tree of any other variety which will yield more money." So he is constantly clearing out new varieties which do not do well, and we notice that the duplicates he puts in their place are Bartlett and Duchesse.

White Grapes.

BY S. J. PARKER, M. D.

NO grape would meet with a more favorable reception than a large, magnificent, delicious, white American grape. Among our native white grapes there are those of hardness, but the qualities of flavor and size are sadly wanting. Let me kindly yet plainly review a few of the American white grapes now before the public.

One of the oldest is the *Maxatawny*. This has been steadily improving ever since it was introduced to the attention of grape growers. When I first saw it, on my own vines, it scarcely was edible, October 25th, and was insipid and inferior at that. These vines, grown from buds of the original vine, now ripen their fruit by the middle of September. Grafted on Isabella, Concord or Catawba old stocks, this grape becomes here as large as Isabellas, and load themselves fully, so as to appear well on the trellis. Yet I apprehend that, until reseeded and long cultivated, it will not be fully popular.

Cuyahoga—This is a small grape in a beautiful compact bunch, as usually grown. It also enlarges and improves in size the longer it is cultivated. On certain very dry and yet rich sites, I have seen it quite sweet and in passable flavor. Yet, if I am correct for the majority of situations, where other grapes are in full sweetness and flavor, this beautiful grape is as insipid and flavorless as any grape well can be. Certain am I that it makes no progress in public esteem, compared with the length of time it has been on sale and in cultivation, because of these undesirable qualities.

Lydia—This is as hardy as the Concord, its parent. It, at this place, bears well, and I cannot condemn it; yet it is small and often fails to ripen well, or is liable to the accidents of every season, to a degree that its parent vine is not. Some years I feel like praising it highly; such years as this it needs to be dispraised severely.

Croton—Scores of letter writers write to me of late: "Is the *Croton* what it pretends to be?" I can but reply that, as far as I have seen it, it appears to be a very desirable grape. It is medium in size, in a fair, not largest bunch, and desirable in appearance. Its flavor is, as far as I have seen it, quite agreeable, but I cannot say that I have seen enough to form an ultimate opinion. The wood has, with me, a large pith, and was injured by the unexampled severity of last winter. I wish I knew more of it, and could tell exactly what it is.

And let me say, there are several of David Thompson's seedlings which are white. Could they be grown as, in exceptionably favorable years, I have seen them at Green Island, near Troy, a mile off, then no one would want better white grapes than many of these. And while I do not condemn them, yet I say try them carefully. At Ithaca, so far, they do not mildew or rot, but are late.

I now name *Rebecca*. This is an old grape. The best vineyard of this grape I ever saw was that of the late Dr. Kellogg, of this place. It was on a dry knoll, and proved that if this vine is planted on wire trellis, six feet apart and rows eight feet from each other, it will cover a trellis three feet high, and near the ground bear beautiful yellowish white grapes, in small, irregular bunches, and can be sold at a profit. It is no use to attempt to grow it on a large trellis. It is never sweet or high in flavor. On damp, rich soils here it is insipid, and never fully ripe.

Let me now say that I have a seedling which is now, September 15th, quite ripe. It is perfectly hardy, and this is the second year of its bearing. Last year it was ripe the last of August. This is a damp, irregular year, ill suited to all grapes, and all are late with us. The berry is clear yellowish white, bunch medium, smaller, so far, than I could wish. Let no one write to me for it, as it is not for sale, or to be given away, at present. If it proves excellent, I shall ask at least five thousand dollars for the exclusive right to it. If it proves no better than the Cuyahoga, Lydia and Rebecca, I shall, in a few years, give it to all who wish it. It, so far, has proved sweet, early and fine in flavor.

Several other grapes of less value than these might be named, but the time to describe them would be lost. On the whole, it is questionable whether the satisfactory white American grape has yet been seeded; certainly no one is, beyond all doubt, clearly before grape growers. My best hopes are for the *Croton* and my own grape. For the southern, western and trans-Rocky Mountain States, the grapes of David Thompson, will be favorites; for, as my correspondent, W. H. Stith, Esq., has shown, foreign grapes, while the vines are youthful, will ripen quite well at Richmond, Va., and certainly hybrids ought to do better there and further south than unmixed foreign pollen.

Mr. W. H. Stith, of Richmond, Va., has, this year, ripened the delicious Muscat Hamburg out of doors.

Concords ripen best in Southern Maryland and Virginia of any region of the Atlantic coast, from which we have seen them. There is no denying the soft pulp, the delicious sweetness and the earliness (Aug. 15th) of this region for the Concord.

Northern Grown Trees at the South.

IN one of her letters from Florida, published in the *Christian Union*, Mrs. H. B. Stowe states that a peach orchard on her estate does not "put forth" at the same time other peach orchards do in that vicinity, but remains dormant until the time arrives for peach trees to start at the North, and expresses the opinion that the cause is, that her trees were grown at the North.

I think Mrs. Stowe, on investigation, will find some other cause for the late starting of her orchard. Perhaps the trees have been set very deep in wet soil. It does not seem possible that a peach tree in a healthy condition, set in suitable soil, could resist the influence of the same degree of heat at the South, which would cause them to put forth at the North. Peach trees have no *set* time at the North for starting; but often vary from a week to ten days in their time of blossoming, according to the season; and in one instance, an old settler of Northern Ohio informed me, peach trees were in bloom in Portage county the 22d of March, which is a month before the usual time; proving that it is the weather and not the latitude in which the trees are propagated, that regulates the time for the expansion of leaves and blossoms. If this were not so, peach trees would not bloom in winter in Northern hot-houses.

St. Joseph, Mich.

J. A. D.

Those New Grapes.

THE Croton, about which there has been so much of a stir made, I think will prove to be a valuable addition to our already long list of grapes suitable for general culture, if its fruit proves to be as good as its healthy, vigorous growth leads us to suppose it to be. It is, evidently, as hardy as almost any other variety we have, and bids fair to hold a prominent position in large plantations of this fruit. It is a white in color and of good quality. Although the first planted vines, now in their third year, did not produce as much wood as we think they should, judging from the previous year, yet the younger vines seem to have taken upon themselves the task of supplying the deficiency, having made a splendid growth. We yet wish a year or so to enable us to give a just verdict of the merits of the Croton.

The Senasqua, as regards growth, has proved very much like the first named variety, and, being of the same age, is not yet old enough to say whether it will prove a good market sort, although, from present appearances, we should say it may.

Chesapeake City, Md.

POMONA.

A House Pet.

NO prettier small pet can be had than the common water bug, or *Dytiscus*. They seem intent on drowning themselves, and their motions in the water are ever amusing. A goblet with one in can be kept amid house plants, and the bug in it is satisfied to live in the water, on the underside of a chip of wood or piece of floating bark. If taken in the fall and fed a little animal or insect food, they are pets all winter long, and very entertaining to those who never saw bugs which live under water. I have two now; one an inch long and very strong, the other small and less strong. They can be found in springs and cool water; and sometimes in damp earth, sawdust,

S. J. PARKER, M. D.

The Hersteine and Saunders Raspberries—Their Hardihood.

BY L. F. ALLEN.

A FEW months ago I saw a notice in one of the papers, from one who had tried them, that these fruits were not hardy, having been killed by the inclemency of the past winter, and thus detracting largely from their value as an economical fruit, either for domestic use, or for market.

I read the article in question last spring, before the buds had begun to swell, and while in their winter condition. Having planted a half dozen of each of the varieties the year before, the most of which took root and grew well during the season—although a remarkably dry one—I immediately examined the canes, which had been left bare and unprotected with any kind of covering, in the same row and on a line with a plantation of the Clark's, which had also received no winter protection. On cutting into several of the canes of each variety, I found them all bright and lively, even to the extreme tips of not only the main stems, but the lateral branches. I had left the Hersteines and Saunders open, for the purpose of proving their hardihood, as I had previously done with the Clark, having little fancy to grow small fruits (save, perhaps, the strawberry) which will not bear our winters without artificial covering. My latitude is nearly 43 deg. north, and we sometimes, although seldom, have the mercury down to 10 deg. below zero, as it was two or three times during the last winter.

All the plants of the three varieties alike threw out vigorous shoots, grew well, and bore good crops the present season, besides pushing up abundant suckers for bearing another year. The Saunders appears to be almost as prolific in *sucker* bearing as its parent, the Allen, which it much resembles, only I think it rather an improvement in size, of equally good flavor, and I hope will prove a more prolific bearer, without another variety by its side to fertilize it. The Hersteine appears to be hardly so vigorous a grower as the Saunders, nor so prolific in pushing up young canes; but its fruit is delicious, large, and abundant. I consider them both as among the *very best* raspberries yet introduced.

Nor, in praising these, would I overlook the Clark. Its vigorous growth, hardihood, abundant bearing, and choice flavor, commend it to every one who wishes to produce a first class raspberry for family use. As a *market* fruit, *for long carriage*, I doubt whether either of these varieties will succeed, *on a large scale*. They are so delicate in structure, like all other fruits of superlative quality, that they suffer from close packing and long exposure after picking. In fact, it is virtue enough in these choice fruits, when they yield so much luxury to the private tables of their growers, that they be spared the profanity of transportation to outside markets. Let the hardier and less delicious varieties serve these purposes.

As all varieties of fruit differ somewhat in their success, or the want of it, in the kind of soil they occupy, I remark that mine is a rich, clayey loam, in common fertility only, as for usual garden purposes.

Buffalo, August, 1872.

Our Native Ornamental Trees.

BY SUEL FOSTER.

IN reading, in the September number of the *HORTICULTURIST*, the list of *ornamental flowering shrubs*, it reminded me of a few small native trees I have, which I value highly.

First is the June Berry, or Service tree, native both east and west; it comes into bloom early, as early as the buds of deciduous trees begin to open, and is as white as a tree covered with flakes of damp snow. Then its form of growth is perfect, neat and clean; its leaves delicate and beautiful; and in autumn they turn deep, elegant brown, almost brilliant red. Truly beautiful, both early and late, and all summer.

The Red Bud (Judas Tree) is like it in many respects, with a great profusion of pink flowers sticking out all along the limbs, looking as though some sweet little frolicsome girl had pinned them on for ornament. Its blooming is early spring, following soon after the Service. Its foliage is very perfect and beautiful. I doubt whether it is a native of our eastern States, but it grows everywhere, up and down the streams of the west, south of 42°.

I find two varieties of Catalpa. The common variety has proved too tender for our severe winters of this prairie country; but I have another and far better variety, every way, of the Catalpa, to all appearance as hardy as an oak. It blooms earlier than the common, larger flowers, and a more profuse bloomer. Early in June it opens its long stems of large, elegant and fragrant flowers, filling its delicate and luxuriant green leaves in its more symmetrical branching top. This variety of the Catalpa may be common in many places. It has stood upon my place some eighteen years; was procured among other articles of Mr. Lipsey, of Indiana. I had never seen any seeds upon my four trees until last year, when two of them had seed-pods. I gathered the seeds carefully, and distributed them among some twenty of my horticultural friends in Illinois and Iowa. I planted a few and raised about twenty-five plants. Who can tell us more about this better variety of Catalpa?

The Tulip Tree (New York, White Wood; Indiana, Yellow Poplar) is a beautiful tree, and its flowers, though not showy, are beautiful.

Many years ago, whilst traveling up and down the Mississippi river, I saw up in the trees a vine with gay orange flowers. Yankee-like, I said to my friend, "What vine is that with those beautiful flowers?" "Why, that's the Creeping Ginny." I would have given my new hat for a plant of the Creeping Ginny to set in my garden in Iowa. About sixteen years ago my friend, J. P. Walton, told me that the Virginia Creeper grew wild on Muskatine Island, near his brother's, not ten miles from here, and he would bring me up any quantity of them. So I got our native Bignonia and set them by the side of my big oaks and hickories, where they climbed and soon commenced blooming, and have not failed to strew my path with their gaudy trumpet flowers annually, from the first of July to September.

Fern Talk.

(Continued from *Oneida Circular*.)

THE Wood Ferns (and there is nearly a dozen of them) are not more peculiar to the forest than are the Spleenworts and the Maiden-Hair, but being evergreen they attract the attention in spring and winter, and are felt to be far more characteristic. Their glory is in the early spring. The sugar-maker sees them at the foot of the trees and near the logs where the sun has melted away the snow. When the snows are all gone and the Adder's-Tongue comes pricking up through the mat of brown leaves, the woods get a touch of gaiety from the ferns which lie bent over stones and crumpled down into holes and spread out on north-side banks and in deep ravines. They are the tokens of eternal summer—the symbols of her everlasting possession. The woodsman can't lose his way at this time o' year if he only stops to see where the ferns lie thickest.

When I come to look for a Rock Fern, I see a dozen quaint little figures start up, each one of which lays a claim to the rocks; but when they come to take their seats, one goes into the gallery, another into the pit, and a third into the private boxes; some take the wall, some keep in the shade, while others seek for the strongest glare of light. They are all weazen-faced little sprites, and have a mighty charm. The Woodsia is a small woolly fern which delights in exposed rocks. The Walking-Leaf likes the top of a rough limestone, where its small evergreen fronds lie flat on the rich plats of moss, and, protracted into long runners, propagate themselves by offsets as do the strawberries. The polypody (*Polypodium vulgare*) is generally found on the north side of high rocks. The top of a cliff is one of its favorite seats; growing there in a thick mat, it gives the stone an air of shrewdness like a bushy eye-brow. When the delicate Harebell is added and hangs its pretty flowers adown the cliff, you have one of those antitheses in which nature delights. You think of those sprigs of sentiment which she sometimes puts into the hearts of stern and useful men—soldiers, theologians and railway-contractors. The Bladder Fern (*Cystopteris bulbifera*) and the Bliff Brake (*Pellaea atropurpurea*) are the real climbers. They are never more at home than when scaling a wall of limestone. They root underneath the jutting points like caves-droppers nesting under a cornice; they spring up in all the crannies, and, thrusting their leaves out to the light, they have the air of a bank-swallow peeping from his hole.

There is but one fern growing on trees, and that is the *polypodium incanum*, a sort of little brother to our old Polypody.

Besides the ferns I have mentioned, there are others which grow chiefly in the hearts of botanists. These are the ferns marked "rare" and "not common." Though you may never see them you believe in them as you do in your own genius; you look for them and wait for them as we do for a wind to fill our sails and bear us on to strange harbors. Growing, as they do, a few in a place, and perhaps a hundred miles from any others of their kind, the thought of them affects you like the rarity of high gifts, and you are fearful lest they have to go down in the struggle for existence. They are few and hard to find, but all the more potent, as if to teach us

to look beyond what our eyes can see. They raise more questions than a hundred scientists can answer.

One of these rare ferns is the Adder's-Tongue (*Ophioglossum vulgatum*), a single undivided leaf not much larger than the bowl of a tea-spoon, and clasping a stem which shoots up a little higher and bears the fructification in a sort of spike. A student, seeing this fern embalmed in an herbarium, asked his professor once where he could obtain a specimen. The answer was, "Go to a wet meadow, and crawl around on your hands and knees half a day, and perhaps you will find one."

Of all the gentle plants and rare, may be the Climbing Fern (*Lygodium palmatum*) is the most singular. A smooth, twining stem from one to three feet high, with a roundish leaf or frondlet, deeply parted, and looking some like a five-rayed star. It used to abound in a certain meadow in Old Windsor near Hartford, but the people of that city, having none of the tender feelings of a botanist, carried it away for purposes of decoration. What little now remains is protected by a statute.

The Scolopendrium or Hart's-Tongue is king of all your rare and solitary ferns. It lives apart from the great herd of plants in a kind of royal solitude, as if it had gone there to wait on its own inspiration. Its haunts are named in "Silliman's Journal," lest they be forgotten. Botanists make long journeys to find it. I once thought I ought to see it. I could wait for that little Schizæa down in the pine-barrens of New Jersey; I could wait for that Rock Brake which grows on Isle Royal and "high northward;" I was in no hurry for the Lip-Ferns of Virginia, or the Tree-Ferns of Florida. Scolopendrium was a passion with me. It had a gripe on my heart like some poor kinds of love. So we started one day for that wild gorge where the Chittenango pours his little pitcher over the dizzy rocks. Leaving the level country through which the New York Central Railway passes, we enter the narrow valley of the Chittenango Creek; we pass through a village; we pass lime-kilns, and square, solid mile-stones; fetid sulphur springs for men, and sweet fountains for horses; red and spotted cattle are feeding on the bits of hillside pastures to the right of us; to the left of us are patches of high gray limestone which overlook trees below them and uphold forests above them. We began our search at the bridge where the road turns away from the creek to get around the falls. Following the line of jagged cliffs which bends in and out, making deep bays into which the sun never shines, we found the Scolopendrium growing in the dense shade of trees and pale Touch-me-nots, and rooting in the light film of leaf-mould which everywhere covers the steep slope of broken stone. There it was; a dense tuft of long crimped leaves, looking for all the world like a bunch of narrow-leafed dock. Stopping a little to feel the spirit of the thing, and to turn up one of its fronds to see the long parallel fruit-dots, which somehow remind you of the stripes on a sergeant's arm, we dug it up eagerly; partly in triumph, for I had hunted for it more than one day; partly in awe of its strange presence; and partly in fear that it would slip away from me. I cared little that day for the hairy men of Saghelien, or for the handful of savages dwindling away in Tasmania. I had small place for ethnology or philanthropy. With the finding of the Scolopendrium my fern-spasm passed off, and my interest in its kind became healthful and steady.

Notes of Travel.

Ornamental Gardening near Philadelphia.

A NUMBER of elegant gardens and villa grounds, laid out with excellent taste, can be found in the vicinity of Philadelphia.

Whether owing to the greater love for plants, or the greater income of its citizens, or the desire to secure every comfort to make the contentment of home life complete, it is yet remarkable that here more money is spent for landscape decoration, in proportion to the means of the citizens, than any other large city of the United States.

Chestnut Hill, a pleasant suburb of Germantown, and about 15 miles from the city of Philadelphia, contains some gems of this description.

Charles H. Miller has, for many years, been engaged in the superintendence of the grounds of many wealthy residents of this vicinity, and lately we enjoyed the pleasure of an extensive ride with him through some of the best. Perhaps no place of small extent was so exquisite in its effects as that of Miss Biddle (one of the descendants of Nicholas Biddle). The house, though built of stone, and setting close to the street, still contained nearly an acre in the rear, which, from the style of planting, appeared fully three times the size. The edges near the fences were planted in close, dense-growing evergreens and deciduous trees, leaving the center of the lawn perfectly smooth and unbroken in extent. A very pretty specimen of the *Mossycup Oak* stood alone by the path, showing a most picturesque habit. It is a wonder that it is not oftener used in landscape gardening. Its graceful habit and spread of branches is a great recommendation in its favor. The rear of the house is built with piazzas on each story, and over them has clambered climbing vines in the greatest profusion, creating a most lovely picture, as one looks at it from a distance. The Wild American Grape Vine is here used freely for climbing purposes; likewise the Ivy, and if we were to decide which was the prettiest, we would prefer the former. The view of these vine-covered piazzas, heavily enveloped in the thrifty, climbing greenery, presented a rare picture of rural elegance. In the piazza at the front of the house, were other climbing vines, the Honeysuckle, Jessamine, etc., and by the side of the steps we noticed one of the broad borders cut in the turf, covered with the Honeysuckle, which was here made use of as a bedding plant. At the farther edge of Chestnut Hill, on a prominent elevation overlooking quite an extent of beautiful scenery beyond, are the residences of Charles and Edward Trotter. The nature of the ground at time of first purchase was very forbidding, but by the skill of Mr. Miller, and unlimited capital to aid him, the situation has been rendered exceedingly picturesque. We could not help noticing here, a happy example of true art in the selection of ground for the residences, and at the same time, the choice of designs for improvement of the lawn. Each home has a view of hill or valley from its own doors, which the other does not possess, and the gardening decorations have been carried out so as not to interfere with these views. Near Mr. Chas. Trotter's, advantage has been taken of some inequalities of the ground near the edge of a wood, to construct a beautiful *grotto*. Up over the rocky archway are trained the climbing Jessamine and Honeysuckle; on the sides of the rocks beyond, are caught here and there roots of Ivy, and sprigs of Ferns, which will soon grow and cover the surface. At the foot of the rock are beds for Mosses and Lycopodia. At the farther edge of

the large Grotto (which is 25 feet in diameter), is another inner grotto, hanging under the green arch of leafy trees overhead. This grotto contains a little statue, and at the bottom is a pool of translucent water, which has dripped, drop by drop, from a mossy bank hanging overhead. In the center of the open grotto are beds of subtropical plants, thriving—some even more finely than if they had been kept in a greenhouse. At various intervals, along the edge of a wood which adjoins the place, Mr. Miller has planted groups of wild Ferns and shrubs. One pretty bed in particular contained Ferns in the center, with a belt of Ivy trailing low around it.

The use of Ivy is quite frequent among the flower beds of this place. For instance, nothing could be more neat than one bed of Rhododendrons by the side of the road, which was planted with Rhododendrons in the center; on the edge were gathered low Azaleas, and all over the ground beneath was a creeping mass of Ivy, hiding its bareness. Across the lawn, at various places, were other beds where Ivy was used. One of Pampas Grass in the center, was surrounded on the edge with a little Ivy-covered wire arbor. The wire was semicircular, bent at each end in the ground, rising six inches above the surface, and about twelve inches wide. Vases were also seen containing plants above, and their base surrounded with the Ivy.

The most attractive beds were, of course, the Geraniums. One was planted with a solid mass, six by twelve feet, of *The Attraction*; another, same size, with *The Lucius*. Both are profuse bloomers, and throw very dense trusses. The shade of the former is a little brighter scarlet than the latter.

By their side, beds of Coleus appeared but pale in color, and even the Salvia seemed less brilliant. Among various plans for pretty garden beds, nothing was better or more chaste than a few devoted to the Vincas. They are very unique, and, besides thrifty in growth, have the merit of easy management.

One subtropical bed attracted special attention. It consisted of the *Arundo Donax* in the center, next surrounded by the *Abutilon Thompsonii*, then the *Achyranthus Lindenii*, the outer edge of the bed being bordered with the *Centaurea gymnocarpa*. Another bed, small, contained the *Centaurea* in the center, with *Alternanthera versicolor* on the outer edge.

In another part of the grounds were several *Rosaries*, each Rosary being in the form of a bed with two semicircles, one within the other, planted with roses. These semicircular beds succeeded one another down a side path; between the points of each bed was erected a little wire arbor, up the sides of which were trained the long running arms of some creeping vine. The sorts most preferred were the *Gem of the Prairies Rose*, *Prairie Queen Rose*, *Baltimore Belle*, *Woodland Margaret*, and among the Bengals, *Washington*. It is the intention to train a wire from the summit of each wire arch, to the next one, and permit it to be covered with climbers.

Among the roses tied to stakes, planted in the Rosaries, the following seemed to be most preferred:

Homer, a pretty fall rose, pink color; *America*, white; *Washington*, red; *Victor Verdier*, splendid pink.

Among other attractions of the place are beds of the *Hydrangea paniculata grandiflora*, one of the handsomest summer and fall flowering shrubs we now have. One bed of the *Erianthus Ravenæ*, 10 feet high, was also noticeable, waving their

grayish copper-colored plumes in the air. It is perfectly hardy, and easily grown on any place. To heighten the effect of it, plant a belt of *Pampas Grass* around it, and you have a very desirable contrast.

Floral Nursery.

The floral gardens of Miller and Hayes appeared more highly decorated than at any previous time of the spring or summer. The position of the gardens, immediately fronting upon the road, with a back ground of long ranges of conservatories, gives to the place a semitropical aspect. Numerous vases, decorated with *Yuccas* and *Agaves*, appeared in contrast with some of the newer and finer sort of evergreens.

Most of the newer and best roses, evergreens, geraniums, etc., are imported by this firm as quick as they have made their appearance in England; and among their customers are many who purchase regardless of price. Most of the stock of these gardens are sold at prices which might cause the heart of an ordinary florist to be full of envy, such as roses, \$3 to \$5 each; new evergreens, \$5 each, and other plants in proportion. Among the best of the newer evergreens, preference is given to the *Retinispora plumosa*, and also the *R. Amea*, which have a graceful, feathery outline, not unlike the *Hemlock spruce*. Among other new plants suggested by Mr. Hayes, as peculiarly valuable, and now sufficiently well-tested for general cultivation, are the *Aralia quincuncea*, or *A. Japonica* for subtropical beds; also the *Althea variegata*—the single flower is better than the double; also *Mahonia fortunei*, *Juniperus Hymalis*, *Cupressus Nutkaensis*, and *Yucca Recurva* for vases, are among new and very fine as well as rare plants.

The *Euonymus Radicans variegata*, is a beautiful silver variegated variety, tinted red, trailing.

New Roses.

All the best, newest and most rare of the European Roses are tested here as fast as they appear. Some of them have proved decided acquisitions, and a list of the best of each class has been filled out for us by Mr. Hayes, as follows:

New Roses, 1872.

Coquette de Lyon (Tea)—Flowers canary color, medium size, fine form, full; growth vigorous.

Madame Azelie Imbert (Tea)—Flowers rose; back of petals white; large, full, and fine form; growth vigorous.

Madame Berard (Tea)—Flowers clear rose; large, full, and fine form; good habit and vigorous growth.

Novelties, 1871.

Princess Christian—A remarkable rose; flowers bright, rosy peach, sometimes salmon, glossy, very large, very double, and fine cupped form; growth robust; foliage and habit perfect, and of surpassing beauty, being distinct in color and character.

Virgil (H. P.)—Flowers clear lavender pink; very large, full, and of perfect form; a fair distinct rose, hardy free growth, and very sweet.

Comtesse d'Oxford (H. P.)—Flowers bright carmine red, shaded; very large and full, and of fine foliage; handsome.

Marquise de Castellane (H. P.)—Flowers a beautiful bright rose; very large and full; form perfect; blooms freely.

La Motte Sanguine (H. P.)—Bright reddish carmine; large and fine; foliage good; growth vigorous.

Louisa Wood (H. P.)—Bright rose; large and full; growth moderate.

Paul Neron (H. P.)—Dark rose; very large, of fine form and habit; growth very vigorous; a seedling from Victor Verdier; *the largest* rose which has ever blossomed in this country.

General Collection of Roses.

Among a list of five or six hundred, the following have been selected as the very choicest. This list will be found very valuable for consultation by any about planting.

Tea Roses.

Belle Lyonnaise—Deep canary yellow, changing to white, slightly tinted with salmon; large, full, of fine form and habit; growth vigorous; a seedling from *Gloire d'Dijon*.

Madame Celina Noirey—Delicate shaded rose, back of petals purplish red; large, full habit; one of the best.

Madame Hippolyte Jamain—Outer petals pure white; large; center petals smaller and of a coppery yellow, tipped with delicate rose; large, full and of fine form; growth vigorous.

Sulphurieux—Sulphur yellow, of medium size; fine form, full; growth vigorous.

Madame Margotten—Beautiful dark citron, yellow center of deeper shade; large and fine form; profuse bloomer.

Marie Sisley—Yellowish white, broadly margined with bright rose; large, full and of fine form and habit.

Monsieur Furtado—Clear sulphur yellow; fine form, and full.

Reine du Portugal—Very deep, bright yellow, sometimes shaded with rose and copper; full.

Vicomtesse de Cazes—Yellow; center deep yellow, tinted with copper color; large and very double.

Noisette Roses.

Margaretta—Yellow, edged with pure white, shaded with rose; full, and fine form and habit.

Bourbon Roses.

Souvenir de la Malmaison—Clear flesh color; large and double; fine autumn rose.

Moss Roses.

Madame William Paul—Very bright rose; large, full, finely cupped form; flowers freely; growth vigorous; said to be the best perpetual Moss Rose yet introduced.

Hybrid Perpetual Roses.

Bertha Baron—Beautiful delicate rose, lightly shaded white.

Boule de Nieve—Pure white; medium size; full and fine form.

Comtesse d'Oxford—Bright carmine red, shaded; large, full and fine form; foliage handsome; one of the best.

Duke of Edinburgh—Brilliant scarlet crimson, shaded maroon; large, full and fine.

Ferdinand de Lesseps—Purple, shaded with violet; large, full and fine form.

Glory of Waltham—Crimson, very sweet; one of the best climbing or pillar roses.

La France—Beautiful pale peach, rose center; large and full; free bloomer.

Madame Chirard—Clear rose color; large, full and fine form; first class rose.

Madame La Baronne de Rothschild—Beautiful clear pale rose, shaded with white; large and double; one of the best.

Madame Victor Verdier—Rich bright cherry color; blooms in clusters; superb and effective rose.

Mlle Juliette Halphen—Bright flesh colored rose; fine form and habit.

Marquise de Castellane—Beautiful bright rose; perfect form; blooms freely.

Monsieur Woolfield—Beautiful bright rose; large and globular.

Perfection de Lyon—Rose color; large and full; first class.

Pierre Notting—Very dark red, shaded with violet; large and good habit; one of the best.

Pitord—Fiery red, velvety; fine form and effective.

Thyra Hammerich—Delicate bright rosy flesh; large and double; very distinct.

GERANIUMS.

The following selection has been made from the best of the new imported varieties:

New Silver Edged Geraniums.

Avalanche—Flowers pure white; good shape; trusses of flowers thrown in great quantity just above the leaves, which are dark green, with a broad edge of pure white; dwarf grower and very abundant bloomer.

The new white flowering geraniums differ from others of the same class, in their abundant flowering; they present, when in full bloom, a dense and unbroken mass of white flowers, which blend with the variegated leaves most charmingly.

New Bedding Geraniums.

Bonfire—Flowers crimson scarlet; very large; good trusses, produced in great abundance; leaves zoned.

Caractacus—Flowers dark rosy scarlet, beautiful shade of color; large and perfect truss; leaves faintly zoned.

Magnum Bonum—Flowers yellowish salmon; good shape, and truss very large.

Mlle Nilsson—Beautiful lilac rose, with white center; trusses large; fine for massing.

Penelope—Flowers pink, with white blotch in upper petals; good substance and shape; dwarf habit; very free and constant; leaves darkly zoned.

New Golden Variegated Geranium.

Plutarch—Leaves large, round and smooth; very flat and of stout leathery substance; small, green center, surrounded with broad, black zone, strongly illuminated on the outer edge of circle with scarlet crimson, succeeded by a regular margin of bright yellow; very free, hardy and robust; the blackest of all zones, exquisitely relieved with the intensest crimson.

New Nosegay and Zonale Geranium.

Lion Heart—Rosy salmon; very handsome.



Are Bees Detrimental to Fruits?

THIS question, if not quite so "old as the hills," runneth far back into the past, and still appears no nearer a solution than a century or more ago. As for our part, we take the negative of the question, believing that the interests of the apiarian and the fruit-grower run parallel. We have kept bees for twenty years, and for some years past in considerable numbers alongside the grape, raspberry, plum, and other fruits, without the slightest depredations, so far as we have been able to discover. Actual experiments seem to prove this prejudice against the bee unfounded. At a meeting of the Apiarians, some years ago, held at Stuttgart, in Germany, Prof. Lucas, a celebrated pomologist, is reported to have remarked:

"A careful and observant bee keeper, at Potsdam, writes to me that his trees yield decidedly larger crops since he has established an apiary in his orchard, and the annual crop is now more certain and regular than before, though his trees had always received due attention.

"Some years ago, a wealthy lady in Germany established a greenhouse at considerable cost, and stocked it with a great variety of choice native and exotic fruit trees—expecting, in due time, to have remunerative crops. Time passed, and annually there was a superabundance of blossoms, with only a very little fruit. Various plans were devised and adopted to bring the trees to bearing, but without success, till it was suggested that the blossoms needed fertilization, and that by means of bees the needed work could be effected. A hive of busy honey gatherers was introduced next season; the remedy was effectual—there was no longer any difficulty in producing crops there. The bees distributed the pollen, and the *setting* of the fruit followed naturally."

We also have the following testimony upon the same subject, from the *American Bee Journal*:

"In 1774, Count Anthony, of Porrrings, Seefeld, in Bavaria, President of the Academy of Science at Munich, striving to re-introduce bee culture on his patrimonial estate, found in this generally prevalent prejudice (i. e. that the bees injured the fruit by its visits to the flowers), the chief obstacle to success. To overcome this, he labored assiduously to show that bees, far from being injurious, were directly beneficial in the fructification of blossoms—causing the fruit to *set* by conveying the fertilizing pollen from tree to tree, and from flower to flower. He proved, moreover, by official family record, that a century earlier, when bees were kept by every tenant on the estate, fruit was abundant; whereas, when only seven kept bees, and none of those had more than three colonies, fruit was scarcer than ever among the tenantry."

Manipulation of the Grape Vine.

BY WM. H. YEOMANS, COLUMBIA, CT.

THE laws of nature are inflexible and unchangeable. And while from the first a grand harmonious plan of laws has been in existence, the maintenance, and, so to speak, the execution of which has not only added beauty to the face of the earth, but sustenance to both man and beast. Every plant, every tree, in fact every product of the vegetable kingdom, has a separate and distinct mode of development of its roots, its branches, and the perfection and maturity of its fruit, which depend upon very various conditions, in order to arrive at what would be termed perfect development. Thus, different elements enter into the composition of different plants, and in different parts of the plant, so that unless all these elements are contained in the soil, there will be irregularity of growth, or perhaps lack of maturity of seed. To assist in these matters is the province of the farmer, and this is what constitutes cultivation. It is hardly to be presumed that the original qualities of any fruit or vegetable can be improved in the least; and yet many times these qualities which lie hidden can be developed by the assistance of man.

But as regards flavor, etc., it must remain the same as by nature established, and so while oftentimes the size of fruit may be improved, its original characteristics of flavor, color, form, manner of growth, etc., must remain fixed and steadfast. And is it not a fact, that the nearer the mode of cultivation is confined to the manifest design of nature, the more favorable, as a general rule, will be the result? Take, for instance, the growth of the grape vine in the state of nature; it almost invariably is found spreading itself over the branches of trees, or a growth of less size, usually denominated brush, or bushes. Nor is it confined to dry upland, since it is frequently found in its most vigorous growth in what would naturally be called a brush swamp. In such localities the vine is usually very spreading, covering over the tops of the bushes with an exuberance of foliage, from beneath which depend the clusters of luscious fruit in rich profusion. This same picture, too, can be witnessed year after year, and still the vine receives no pruning, laying down, mulching, or other care, except such as nature itself furnishes. The writer has seen many a vine laden with bushels of fruit, the quality of which would sink none in comparison with famous cultivated varieties, and with no care whatever, and still the great cry goes forth, prune to the trellis, cut back, protect in winter, thin out the fruit, etc., etc., in order to obtain a dozen or two bunches of fruit. Now, while it is not the intention of this article to commence a warfare against the whole community of professional grape growers, it is desirable that the subject should be looked at somewhat after the manner of natural growth, and discover, if possible, the effect upon the perfection of the fruit.

Now, in the first place, it must be admitted that the vine requires light, since in all cases of natural growth the vine itself indicates this; since it invariably climbs to the topmost branches of the brush or trees, wherever it is located, as if the rays of the sun were necessary to the perfect development of the vine. This cannot be attributed to any natural tendency to climb, since many cases can be cited in which, where the rays of the sun could fall, the vine was equally content to spread itself

upon small bushes only two feet from the ground, although a larger growth was within reach of its tendrils. Again, a free circulation of air is imperatively demanded by the vine, which is abundantly provided by its natural growth. It may be said that all of this is given by "scientific training." It is very true, all this is given, and more too, and there is where the great difficulty lies. The ends of the vines must be pinched back, and portions of the foliage must be stripped, in order to furnish a supply of light and air, which is entirely contrary to the original plan of nature, or else the natural vine has widely departed from the law of its growth.

The tendency of the natural vine is to spread its branches, and while it puts forth its foliage as if to catch every ray of the sun, the same also serves as a shield of protection to the fruit which gracefully hangs beneath this beautiful canopy of green, and which seldom, if ever, catches the sun's rays; still in this condition the fruit is fully exposed to a free circulation of air. Now reverse this while the fruit is yet green; so disarrange any grape vine as to make a general exposure of the fruit, and it will be greatly injured, if not wholly ruined, and still the cry is, strip off the foliage and pinch back the young shoots, when naturally the very object apparently is to send these out beyond the growth of fruit, so as to protect it beyond a peradventure. The ground, then, can be taken, that it is not natural to train to a trellis, and which has been proven in more instances than one. A writer upon this subject declared, that having discovered a very valuable vine growing wild, he obtained a layer, and attempted to train to a trellis, which, after considerable effort, proved fruitless, as the vine would bear but very little fruit, and that having little resemblance to the original; considering further efforts useless, the vine was abandoned; but being situated near a tree, it soon reached forth and seized upon the tree, and took up its abode among its branches, and, singular enough, was discovered to be loaded with a large supply of fruit, and exactly resembling the original.

Another case occurred, which came under the writer's own observation: A vine of the Hartford Prolific variety was trained to a trellis and fruited comparatively well; it was, however, situated quite near an apple tree, into which a number of its branches found their way, and were left undisturbed. The next year these fruited, and the result was, that while they were the product of the same vine, those which ripened in the tree were much larger, better ripened, sweeter, and, in fact, superior in every particular to those grown upon the trellis. Still, again, a singular case came to notice: A vine came up near two small trees; it grew, a portion traversed the trees, and a portion appeared to prefer a less elevated position, and spread over some small bushes, growing but a foot or two in height from the ground. It came to bearing, and the lower portion matured nearly a fortnight earlier than those upon the trees. This was undoubtedly in consequence of the accumulation of heat in the ground, which greatly accelerated the ripening of the fruit situated so near it. It goes to prove that where it can be accomplished, the maturity of the fruit will be hastened by allowing the vine to grow near the ground. It may then be safely laid down as a rule, that it sometimes is as well, or better, to follow the course indicated by nature. And while it is not expected that this article will influence the great grape growers of our country, it is believed that if those who raise but few for family use are so

situated as to allow the same to follow the natural inclinations of the vine, the result will be more satisfactory than the attempt to follow each arbitrary rule laid down by the professional fruit-grower.

Forests and Rainfall.

Will the Presence of Forests or other Trees Increase the Amount of Rainfall in Countries that are Otherwise Arid?

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

THIS subject was pretty well, or at least extensively, discussed at the late semi-Annual Meeting of the Kansas State Horticultural Society, at Humboldt, in June last. These discussions grew out of a paper read by Prof. Gale, of Manhattan Agricultural College. While the discussions took a pretty wide range, that of tree culture, in regard to its influence upon rainfall, seemed to be the absorbing topic, and was more fully ventilated than any other growing out of the Professor's paper. Upon this, as upon various questions, numerous opinions prevailed. Some were of the affirmative opinion, while others thought that forests could have no particular influence in increasing the amount of rainfall.

There were some facts, presented by Mr. Kingsbury, railroad engineer, which went to show the favorable influence of forests in producing rain. There was, among all the theories and facts presented, one fact which we believe could not be accounted for, but upon the principle of the salutary influence which forest trees have upon the amount of rainfall in any country. The fact alluded to was the amount of rain in the Rocky Mountains, whence all of our great rivers, flowing East and South to the Mississippi and Gulf, originate, and for centuries past no rain, or scarcely any, from near the base of these mountains, eastward for some three or four hundred miles. On the mountains there is an abundance of forest growth, while east of them, for the distance named, the country is a barren waste.

This is a point upon which, in discussions upon this subject, it would be, in our opinion, well to reflect. It certainly throws some enormous difficulties in the way of those who deny the beneficial influence of forest trees upon the amount of rainfall.

Whether it is the extreme altitude of the clouds, which form high up the sides of the mountains, that do not get within suitable distance of the earth to pour down the water contained, until they reach a certain distance from the mountain, or whether the timber would bring the clouds down within raining distance of the plains, or whether the clouds start from the mountain tops or sides, with an inclination to bring them near enough to the earth only at a certain distance from the mountains, are points which furnish ample food for thought.

Should the mountain forests have the influence which they are here believed to possess, their wanton destruction would seem to form a justifiable plea for legislative interference.

Figs. *Why not in the Northern Markets?*

THE *Mobile Register* would like to know what there is to hinder the shipment of fresh figs in safety through to the Northern and Western markets from the South. It makes mention of a shipment of plums from Sacramento, Cal., to Mobile, in good condition, and remarks, "if that can be thus, it would sound very strange to say that figs could not be transported in good condition from Mobile to St. Louis or Chicago. The plums were neatly done up in tissue paper. Our large varieties of figs could be put up in the same way, and be made profitable beyond a doubt."

Sure enough, as we have often wondered, why should not figs, fresh from the trees, be found in all our Northern markets, in these days of refrigerator cars and quick transit? We believe the fig is not much, if any more perishable than the plum or the peach. Hitherto, from what we know, the culture of the fig has not received the attention in this country that the business deserves. No fruit is grown with less



Fig. 1.



Fig. 2.

care or trouble in the Southern States, and we believe the tree stands with little or no winter protection in some parts of the Middle States. The tree fruits at an early age, and is grown from cuttings with the same facility as the currant, cotton wood, willow, etc. Nor are we aware that any special attention has been given to sorts in this country till of late. In this connection we copy the following, which may be of service to some of our readers, from the *Pacific Rural Press*, in reply to a correspondent who asks: "Will you please favor me with a description of the white Smyrna fig, also the shape of the leaf; we have two varieties of figs here, both are claimed to be the white Smyrna; we are very anxious to know which is the right one?"

"There are thirty or forty well-known distinct varieties of figs, and of these there are some eight or ten cultivated in California. Among them we find the true Smyrna

or Turkish figs, or rather the kinds from which are made, by drying, the genuine Smyrna figs of commerce. They are common in Turkey, Egypt, and all along the shores of the Mediterranean to Portugal, and are sometimes called Lisbon figs.

“One of these is known as the large White Genoa, and is one of the largest figs grown; obovate or pear shaped, with pale yellow, thin skin; the pulp is red, very sweet, and in California grows to so large size as to make it difficult to dry them. The leaf of this variety is represented by Fig 1, of course greatly lessened from the natural size.

“The other Fig., No. 2, is the White or Green Ischia, known also as the St. Domingo. This is a much smaller fig, seldom more than an inch and a quarter in diameter, with a pale yellowish green skin, so thin that the dark purple pulp can be seen through it. It is a more moderate grower than the Genoa in most soils, but a good bearer and probably the best known fig for drying, being very sweet and of delicious flavor, and on account of its smaller size more easily handled without injury than the larger White Genoa.

“Most of the purple or black figs have leaves similar to Fig. 2, and nearly all the varieties, if allowed to get dead ripe on the tree, and then carefully managed in the drying, will make a tolerable dried fig; but they never equal the white varieties, and like the poor wines of any country, should never be put upon the market to the injury of the reputation of better sorts. In all the catalogues at our command, none give the name of Smyrna to any particular variety; but they do speak of several varieties of Smyrna or Turkish figs as among the best for drying for export.”

How to Test Wines.

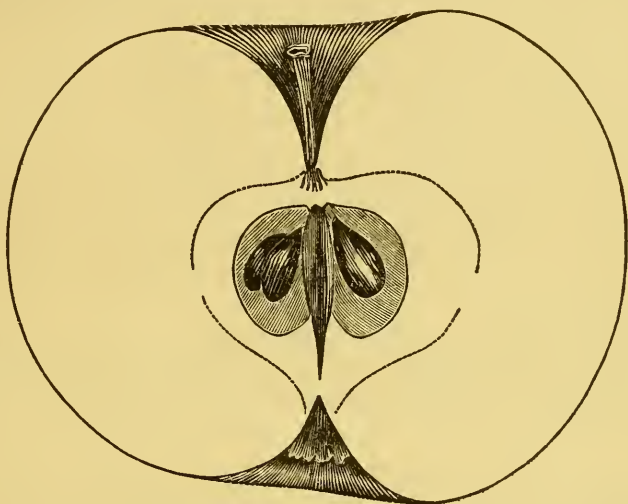
AT a meeting of the Merrimac (Mo.) Horticultural Society, an essay was read by Dr. Galiny, on the manipulation and test of wines, from which we glean the following:

The tests of wine are two kinds—the alcoholometer and tasting. The first is to prove how much alcohol the wine contains, and is based on the knowledge of the specific weights of absolute alcohol and water. Suppose a little glass is full from 1,000 grains of water, the same would get full from 792 grains of alcohol—it is one-fifth lighter than alcohol, and its resistance is immensely less. For the purpose now of ascertaining the strength of wine, an instrument has been invented; it is a glass cylinder which, at the bottom end, is ball-shaped, containing mercury. The cylinder is marked off into 100 parts called grades. Now, if you sink the cylinder in a mixture of ten parts alcohol and ninety parts water, the liquid will reach the 10 grade, which shows that it contains 10° of alcohol.

The other test is by taste; the knowledge of it can only be acquired by time and experience—let me explain: Suppose your judgment is required as to a wine; if it is Madeira, it would be necessary that you had tried the genuine Madeira before and became, through taste and smell, fully acquainted with all its characteristics. So it is with all other wines, which I will show at some other time by experiment—but I must beg of you for this purpose to furnish the materials.

The Lawver Apple.

EARLY in July last we received specimens of the Lawver from Mr. Geo. S. Parks, of Parkville, Mo. Specimens were also handed to us at the January meeting of our State Horticultural Society, to test its keeping and other qualities when in prime. There has been a good deal of noise made about this apple. It has been described as of a "rich, mild, tingling acid; very much like the cranberry; finer flavor, leaving an excellent relish, etc." But we do not find it quite so exquisite in flavor as all this would imply. For long keeping qualities it proves one of the very best, while for shipping it must be peerless, for it has a skin akin to the hide of a rhinoc-



The Lawver Apple.

eros. The accompanying engraving and description of the Lawver, we take from one of the specimens received from Mr. Parks.

Size, above medium; form flattened, one sided; skin thick, almost entirely overspread with dark red and speckled with grey dots; cavity rather narrow, deep; stem medium to long; basin rather narrow and shallow; core large, open; seeds very large, deep brown; flesh firm, darkish yellow, sprightly, acid, moderately juicy; may be reckoned *good*; season, February to July. On the whole, the Lawver has many good qualities to commend it.

THE WISCONSIN WEEPING WILLOW.—*Editor Western Horticulturist*: I notice in a late number of the *Pomologist*, inquiry from H. C. R., Council Bluffs, concerning the Wisconsin Weeping Willow. I have had this willow growing on my grounds in the neighborhood of this city for three years. Most of the trees went through the winters unscathed, while a few had the tops of their branches killed. I think in ordinary soil, and with little or no cultivation, it will prove hardy enough for Central Iowa.

N. J. HARRIS.

Des Moines, Iowa.

Vine Mortality in the West.

IT is well known that from some cause or other grape vines came out last spring with more or less injury all through the West. As to the cause, there is a difference of opinion among the "vine sages." A noted vineyardist in the region of St. Louis, Mr. Muench, is led by observation to thus theorise upon the cause, as we find in the *Rural World*:

"What in the vine is called the inner bark or liber is, I think, in all plants with stems enduring through winter—such as forest and fruit trees, vines, bushes, etc.—denominated *cambium*. It consists of a green, marrow-like matter, between the outer bark and the woody part of the stem or branch; is chiefly formed in the latter part of the season, and designed as the material from which, in the following spring, the first leaves sprout and also the blossoms come forth. The more completely formed and the more richly stored up the cambium is, the more vigorous will be the first growth of the whole plant or of its several branches in the next season, and also the greater the productiveness. Different reasons may operate singly or in combination to prevent the proper formation of the cambium, such as a very poor soil; a superabundance of branches and limbs; a decrepit or otherwise sickly state of the plants; injury to roots or leaves; very early frosts, or a fall too wet and cold; overbearing; such a dry autumn that the scorched ground affords no nutriment to the tender capillary rootlets."

From all I can see, and as a general thing, the two last mentioned causes combined, have effected the mischief. What of my vines remained uninjured—more than three-fourths—show a brilliant growth, with an abundance of the soundest fruit. Even those varieties that are known to be slow bearers, such as the Maxatawny, Adirondack, etc., will yield a full crop. The Ives beats all others, then follow the Concord, North Carolina, Martha Seedling, Martha, Herbemont, Louisiana, Nauvoo, Arnold's Hybrids, Gæthe, Catawba, Cynthiana, Neosho, Norton.

Are Fruit Trees Gregarious?

EDITOR WESTERN HORTICULTURIST: Or rather, are varieties gregarious or clannish in their original formation or development? Certain facts observed the present season induce the question. I have a seedling peach orchard of about seven thousand trees, fruiting for the first time this year. This singular fact is observed throughout. The seeds were planted indiscriminately in the nursery row, and, of course, transplanted into the orchard the same. In fruiting, certain varieties and characteristics are confined strictly to groups. For instance, where a red cling is found, every tree within a radius of say forty or fifty, produces the exact same fruit in all characteristics—size, shape, color, season, quality of flesh, etc. Then a group of yellow free-stones showing the same characteristics, and so on through the entire orchard as to varieties. Where there are barren trees, or not fruiting this season, the same clannish peculiarity exists—no fruit within about the same radius. This to me is new. Is it a principle known to older and more experienced, or is it an isolated "happen-so"—*lusus naturæ*—*rara avis*, if you please?

Brownville, Nebraska.

ROBERT W. FURNAS.

Fruit Growing in Virginia.

A CORRESPONDENT of the *New York Tribune*, writing from what is called the "Piedmont" region of Virginia, says of that section of the State for fruit growing: "While eminently adapted for the production of grains and grasses, it is chiefly to its advantages as a fruit-growing region that I would call attention. While the glowing accounts of the production of almonds, oranges, etc., given by your California correspondent, may not be matched in kind, they can be in quality and value by the fruits of our temperate climate—the apple, the grape, the cherry, peach, plum, and pear. One thousand dollars from an acre of grapes have been realized in one year near this town, and \$75 from one apple tree in one year. The writer last year gathered 27 bushels of the best winter apples from one tree, and that not a large tree, and the product was sold at from \$4 to \$6 per barrel. No country in the world is better adapted to the cultivation of the grape. Five successive crops from one vineyard here have proved the entire freedom of the vine from disease, and every crop has been a full one. The absence of frost and fogs from the slopes of our mountain spurs insures a certain return to the cultivator. But one great want exists here—more people, with enterprise and capital, to develop the rare advantage of the land; men to take up and cut up and cultivate the large, unwieldy, and as at present cultivated, unprofitable farms."

The capacity of Virginia, both in climate and soil, for the production of the finest fruits, is beyond question. The writer's remarks in the foregoing quotation were fully verified at the Pomological meeting in Richmond, last fall, by the fine displays of apples, pears, peaches, grapes, and figs, gathered from the orchards and vineyards of the State.

The Grapes of Nauvoo, Ill.

EDITOR WESTERN HORTICULTURIST; The grape crop of Hancock Co., Ill., this year, is a light one. Blight and mildew for the last few years are telling upon the health of the vine, and the decline in the price of wine is discouraging to the vintner. But few new vineyards have been started within the last two years. In the spring of 1868, a correct census of the vines and wine made was taken, which showed 344,101 Catawbas, 57,508 Concords, other varieties, 48,356. Total, 449,965. Varieties not named consisted chiefly of Isabella, Delaware, Clinton, Iona, and Diana. Since then the Ives Seedling, Norton, Virginia, and several numbers of Rogers' Hybrids have been extensively planted. Most or all of these new varieties made a fine show and promised well, but the same causes that affected the older varieties, made a good deal of dead wood among these. Norton's seemed to fare the worst, and many of these were killed, root and branch. Most of the others, including the Catawba and Isabella, sent up new canes, and have made a good growth of wood, promising well for a crop for next year. We have 75 wine-cellar and 150 press-houses, costing \$450,000, and the amount of wine made in and around Nauvoo in 1870, as estimated by John Bauer, a prominent wine-grower and a reliable man, was 300,000 gallons. That is probably more than will be made this fall. Still, and notwithstanding all casualties and drawbacks, wine will be plenty and cheap.

Nauvoo, Ill.

C. BRADLEY.

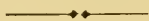
What is this "Varmint?"

EDITOR WESTERN HORTICULTURIST: I send you some rolls or chunks of dried leaves, picked from one of my apple trees. I have noticed the same in previous seasons, but not so plenty. What is it; and is it likely to damage the trees? I do not discover that it meddles with anything, only this rolling up of leaves.

S. F., *Dubuque, Iowa.*

REMARKS.—It is the Leaf Roller, and is quite common in Western orchards. In years past, it was very plenty in orchards about here; but for a year or two past not much of its work has been seen; we could never see any harm from it, except disfigurement of the trees. The worm is readily detected in autumn by a roll of dry leaves attached to twigs of the trees by a very strong thread-like ligament. It is a little brown worm, about a half inch in length, and is in the center of this, domiciled for the winter, and where, we think, it undergoes transformation—coming out a little brown moth in the latter part of May. We know but little about the habits of this insect, but think it propagates its species by deposit of eggs upon the leaves, which, by some means, are rolled up as seen.

The only remedy we know of, and which is effectual, is to hand-pick the rolls in autumn or winter and burn them. This done a season or two, and you will see no more of it for some time. This insect has been mistaken by some for the apple-core worm—Codling Moth. Nor do we wonder at that, when we see a very pretentious journal, not a thousand miles from New York, mistake it for the Canker Worm.



Wines of Different Districts.

THE *Pacific Rural Press* says, in reference to California wines made from grapes grown on different soils, that they differ "widely in quality, and well they may, for hardly any two soils will produce wines exactly alike. The alluviums of the valleys produce enormous crops of grapes in seasons in which there is neither rust or mildew to injure the vines; but the wines from such localities are generally inferior to those of hilly and mountainous districts.

The wines of the plains, or the red lands of Scaramento valley, are better than from the river alluviums, and nearly equal to those of the foothills adjacent, to the eastward; for the very reason, perhaps, that the red lands are but the debris of the rocks brought down to the plains. Then there are the chalky districts, so called, and the more completely volcanic, that extend for miles together along the foothills, producing wines of a wholly different character from the other, and quite independent of the particular manner of their making up.



Editorial Notes.

Mr. Satterthwaite's Pear Orchard.

Mr. Edwin Satterthwaite's pear orchard, at Jenkintown, Pa., has been for quite a good many years in excellent reputation with Pennsylvania fruit purchasers. We had an opportunity to visit it one afternoon in September last.

The trees are planted in rows about 20 feet apart, and often as closely as 10 feet in the rows, the interspaces being entirely filled with vegetables, and the ground so heavily manured as to supply all crops with an abundance of nutriment.

We had but little time to canvass the merits of all the varieties. Out of his orchard of 7,000 trees, he gives the preference as his best pear to *The Rutter*. It bears with him ten times as much as the *Beurre d'Anjou*, and twice the *Bartlett*. It is ripe in October, and keeps a month; fruit is quite large, smooth, ripens up to a golden yellow color, and always sell well in his market. A characteristic of the tree is, that it begins to bear so early, usually the second year after planting, and increasing steadily.

The *Buffum* is with him a good market pear; ripening last of September.

The *Frederich of Wurtemberg* blighted this year quite seriously, and thus has disappointed all previous expectations.

The *Lawrence* with him is better than the *Beurre d'Anjou*, which last drops its leaves badly, and though a good fruit, yet the *Lawrence* is more productive.

The *St. Michael* is a fine tree; fine shape, and beautiful color; sells well.

The *Howell* bears twice as much as the *Bartlett*; ripens about ten days after it, and is a very desirable family tree.

The *Belle Lucrative* blights badly.

Manning's Elizabeth is a delicious early variety, which always sells well.

Sheldon, fruit drops from the tree.

Doyenne d'Alencon, among winter pears, is one of the best: ripens when pears are scarce; tree very healthy and productive.

On asking him for a list of best new late pears, he gave the following:

Beurre St. Nicholas—ripens in December and January.

Rutter—ripens in October.

Nouveau Poiteau, *Duchesse de Bordeaux*, *Pound*, *De Tongres*, *Doyenne d'Alencon*, *Lawrence*, *Doyenne de Comice*.

All the above are worthy of trial, although the *Rutter* is best.

The *Beurre Superfin* is a royal tree in growth, and bears very large pears; ripens in August and September very near that of the *Bartlett*, although no better in quality nor more productive.

As Mr. Satterthwaite has a retail stand of his own in one of the largest of the Philadelphia markets he has unusual advantages, both for selling his fruit and judging what varieties sell best. Over 200 varieties are now grown and tested by him.

The prices usually obtained are from \$8 to \$12 per barrel; with this he is satisfied, not being quite so ambitious as a certain Pennsylvania fruit grower we know to get his \$12 per doz. Were Mr. Satterthwaite planting an orchard to-day of 1,000 trees, we doubt not over 500 would be late fruit, and of these fully three-fourths would be equally Lawrence and Rutter. As the Rutter has succeeded so well on his place, we would advise fruit growers generally to investigate the merits of this pear for cultivation elsewhere.

The Spanish Chestnut.

A correspondent of *The American Rural Home* advises the cultivation of this tree:

Many trees of Spanish chestnuts in this county bear large crops annually. This season the nuts were not so large as usual, nor the price so high, but I heard of one man who sold from a single tree to the amount of \$80, and I know of other trees producing from four to five bushels each. They generally sell readily in the Philadelphia market at from thirty to sixty cents a quart, according to size, and season. An acre of ground planted with Spanish chestnuts would be much more profitable than the same space planted with apple trees; nor would it be much less profitable to plant out the American chestnut, by carefully selecting those bearing large nuts. A tree here and there may be found bearing nuts almost equal in size to the Spanish. By propagating only from such, we might in time rival the latter in size. In other respects, they are now superior. It is only roasted, or boiled, that the Spanish chestnut can be compared to the American. Should chestnuts become more plentiful and cheap, they might, in time, here, as in parts of France, Italy and Spain, be ground for food and make a pleasant and wholesome addition to our *materia alimentaria*. Spanish chestnuts, like our own, differ greatly in size. To grow them with certainty of large size, the best plan is to cut grafts from trees which produce the finest. They succeed perfectly if grafted on American chestnuts. They require but few years to come into bearing.

The Eumelan Grape.

The experience of fruit growers, in Michigan, seems to indicate it to be their best black grape. It is hardy, prolific, and in quality equal to the best black grape they have.

A New Daphne.

The *Revue Horticole* notices a new shrub of great merit, named *Daphne salicifolia*, or the Willow-leaved Daphne. It was procured originally from the Caucasus. There is nothing peculiar in its cultivation, a light loamy, but somewhat sandy soil, such as grow heaths, is adapted to its wants. The flowers are white and very numerous, and its season of flowering is about the middle of April.

A New Plant.

The French gardeners are noticing a new bulbous plant, named the *Homorphophallus papillosus*, which serves as an ornament in the green-house from April to September. The peculiarity of this plant is, that after its brown spathe-like flower is blown, a leaf rises up and bends over it like a helmet, and seems to protect and cover it like an umbrella, which divides into bunches with numerous pinnated leaflets of a fine green color.

Preventive of Leaf Blight.

The *Prairie Farmer* thinks that a dry subsoil and good ventilation under and about the tree tops, in the growing season, will be good preventives; and would like to see tried Mr. Hatheway's blight remedy of copperas, dissolved and poured about a tree, so as to penetrate the earth about the roots.

Dinner Table Decorations.

Our frontispiece this month is a design of a dinner table recently set and exhibited at a recent Crystal Palace Exhibition in London.

The principal object in the design is, to show the best possible display of fruit and flowers, without extravagant expense. The glass fruit dishes are occasionally decorated with fern fronds and evergreen sprays, while two principal floral dishes for bouquets at each end of the table, one handsome center piece, and side bouquets around the table for the guests, make an excellent equipment. In choosing flowers, the decorators avoid Lilies, Stephanotis, Tuberoses, etc., which load the air with heavy perfume, while preference is given to flowers without strong perfume—Grasses, Poppies, Lilies of The Valley, are all well liked.

Fruit Trade of New York.

Some idea of the magnitude of the foreign fruit trade of New York can be gained from the statement, that during the first six months of 1872, the importations of foreign fruit amounted to \$2,100,000.

Profits from Melons.

A Maryland fruit-grower this year planted 300 acres in water melons. Last year he realized \$14,000 from it. Expects to do better this year.

Profits of Flower Gardening in Holland.

There is said to be a piece of ground of 125 acres near Haarlem, in Holland, planted with hyacinths, which brought in a revenue of \$150,000 the past year.

Ohio Horticultural Report, 1871.

The fifth annual report of Ohio State Horticultural Society has been received. The society is in prosperous condition, spends less than it earns, and its members seem to be full of enjoyment. Dr. Warder has been re-elected President, G. W. Campbell, Treasurer, and M. B. Bateham, Secretary.

Bouvardia Vreelandii.

This *Bouvardia*, introduced by S. B. Vreeland, of Greenville, N. J., seems to have met with favor from English florists. They pronounce it and the *Davisonii* not only similar, but identical. They admit it to be more prolific of blossom than the *Bouvardia Hogarth*. Thomas Moore, editor of the *Florist and Pomologist*, says it is a most valuable decorative plant, "it is easily grown in light, rich soil, abounding in leaf mould, and with a night temperature of about 50° in winter. During summer the plants thrive in low, well aired houses, having a north aspect."

Lilium Giganteum.

A beautiful specimen flowered this year at Gordon Castle, Morayshire, England. It had no less than 17 fully expanded flowers, supported on a stem 11 feet in height, and nearly 9 in circumference.

Laxton's Peas.

There has been a great pea show this year, by the Royal Horticultural Society, at Chiswick. The indefatigable Laxton was there, and carried off the eight highest certificates:

Laxton's Harbinger—the very earliest pea in cultivation.

Laxton's Superlative—largest pod of any pea in cultivation.

Laxton's Fillbasket—most prolific pea in cultivation.

Laxton's Omega—highest quality of pea in cultivation.

These appear to be the best of the list.

Failure of American Florists to take Interest in Horticultural Literature.

It is really lamentable to behold such apparent apathy of interest among professional gardeners, florists, and horticultural writers. At no time in ten years has there been such scarcity of contributions from the pens of practical men. Whether it is because they are waiting to be *invited* or not, or, whether they expect to be *paid*, or not, for their supremely valuable influence, we cannot say; but we speak for all good journals—*every writer is welcome*. None of our horticultural journals, and even most of our agricultural journals cannot afford to pay for contributions. Our papers keep standing invitations to all to write. If any complain of the poverty of interest in journals, or poor progress of horticulture, they must attribute it to the little interest taken by the profession in writing up appropriate topics connected with it. We see but few articles now-a-days from florists, describing their experience or opinion of new varieties. We recommend florists and nurserymen to pay more attention to literary topics—write more, and your trade will thrive.

Ask Questions.

We invite our readers to ask questions. No better way can be devised to make a journal interesting, than to have a pleasant "gossip with correspondents." An interchange of inquiry and information among subscribers is very much needed in horticultural matters. All requested to write and contribute information.

Fine Seckel Pears.

Specimens of fine Seckel pears have been forwarded to us by A. D. Webb, Bowling Green, Ky. They are the largest we have ever seen, and many of them measured eight inches in circumference.

The Water Cress.

We are pleased to see a word said for this neglected salad plant, by the *Western Rural*:

This grateful salad (*Nasturtium officinale*), which is now found indigenous in many localities in the United States wherever there is living water, may be multiplied indefinitely, and always commands a ready sale in our principal cities. Any farmer who has a running stream or pond fed by living water may at least raise enough for home consumption, and near cities, or where railroad transportation is available, it may be cultivated with profit.

It is an aquatic perennial; and where coming up spontaneously, or sown, its roots once obtaining a foothold, soon cover the surface of the water, and thereafter yield an abundant supply. It often brings from three to five dollars per bushel, or one dollar per peach basket full.

When the water is shallow, all that is necessary is to drop the seed into the water in the fall, and it will usually grow without further trouble; or in the spring the roots may be planted directly, at the distance of one to two feet from each other. It is anti-scorbutic and exceedingly agreeable to the taste; is truly valuable as one of our best spring salads, and it is only the want of knowledge relating to the habits and cultivation of this plant, that prevents its more universal cultivation. Trout streams, especially, are well adapted to the cultivation of this plant, since the water for raising healthy trout must be pure, and pure water gives a peculiarly agreeable flavor to the plant.

The seed is exceedingly fine, over 100,000 being contained to the ounce. It is

supposed to have been introduced from Europe, but has become naturalized, and wild in many portions of the United States. The stem is from six to eighteen inches long, according to the depth of the water in which it grows, the leaves being borne along the stems, and both the leaves and stems are used for eating.

Gossip About Mark Miller's Farm.

Mark Miller, our western editor, is too modest to speak for himself, but a great many good words have been spoken concerning him, which will bear repetition. He settled in Wisconsin in 1848, and was among some few who organized the Wisconsin State Horticultural Society, in 1853. From that time up he has been intimately identified with the pomological interests of the West.

The *Iowa Daily Register* mentions a visit which it made one day not long back to Mr. Miller's farm, which is located about a mile and a half from the city of Des Moines, Iowa :

In choosing the location, Mr. Miller displayed the admirable taste of a true lover of the beautiful, who combines good sense and practical ideas with the ornamental and romantic,—for the ground on which he located is just what a person would mould, or scoop, or carve to their hand, had they the power to do so. He has been on this farm only four years, but in that time he has made astonishing headway towards the growing of fruit and the general ornamentation of his place. An orchard, numbering about six hundred trees, set out at that time, shows the healthiest, thriftiest appearance of any young orchard we have looked through.

What he has done in the apple tree line, he has also accomplished with pears, cherries, etc. All his trees look healthy, and it seems that bugs, caterpillars, borers, etc., which trouble other fruit-growers, don't visit him, but it is probable that their absence is owing to constant care and watchfulness on his part.

People talk about our rigorous climate, and ominously shake their heads whenever fruit is mentioned; but raising fruit, with men of Mr. Miller's practical knowledge, ready tact, good judgment, earnest industry, seems to be no hard task; and we are glad we have such men among us; and above all, we are glad that we have a person who is so practically and eminently fitted for the difficult duties of editor of our State agricultural paper. So many briefless lawyers, superannuated doctors, and itinerant scribblers are foisted on the public now-a-days, as agricultural editors, that it is absolutely gratifying to find one who, like Mr. Miller, can not only write, but hold the plow, and not only use the scissors, but also the pruning-knife; one that can bring to his editorial desk that practical knowledge which "knows whereof it affirms," and enables its possessor to be just what a true agricultural journalist should.

Complimentary.

The following pleasant notice is given us by the *American Rural Home*:

We have long regarded THE HORTICULTURIST as one of our best journals, devoted exclusively to horticulture. For some months past we have searched eagerly among our exchanges for the *Western Pomologist and Gardener*, certain to find, in its well filled pages, much valuable matter. Now we learn that these two valuable journals, representing Eastern and Western horticulture, are to be consolidated, and that Mark Miller, former editor of the *Pomologist*, will be identified with the editorial management of a special department in THE HORTICULTURIST, to be named the *Western Horticulturist*. We doubt not this union will add greatly to the value of THE HORTICULTURIST, and it has our warmest wishes for its success.

Floral Notes.

Marantas.

Marantas are becoming favorite foliage plants. Their leaves are beautiful. They require a moist, warm atmosphere, and hence are not adapted to rooms or conservatories, except for a short time. Latterly, several very beautiful species have been introduced. *Maranta Veitchii* is a very striking one, the leaves being purple underneath, and deep green above, with yellow markings near the midrib. *Maranta fasciata*, a very handsome species, has green leaves banded with white from the midrib to each margin, which characterize it as peculiarly suited for the decoration of vases. *Maranta rosea-picta* is noticeable for its rosy midrib, and for similarly colored bands upon the leaf, a little way from the margin. Those who have greenhouses will appreciate these plants. It is unfortunate that they cannot be grown in conservatories; but grown in vases, they can be transferred safely to the conservatory or drawing-room on special occasions.—*Rural New Yorker*.

Phlox Drummondii.

This is one of the most satisfactory annuals in cultivation; it is brilliant and varied in color, has a long season, and is easy to grow. A bed of *Phlox Drummondii* is a dazzling sight on the green lawn; a border of it winding along the path is a constant attraction with its show of varied and delicate blossoms. It is the only annual *Phlox* known.

In 1835, Drummond, a botanist, sent out by the Glasgow (Scotland) Botanical Society, discovered this annual in Texas, where it is a native. He described it as purple in color, and probably sent home seed gathered from flowers of that shade, but three years later Mrs. Loudon had ten or twelve colors in her collection of *Phlox*.

This disposition to show a variety of colors is characteristic of the *Drummondii*, and though florists have striven to grow it, so that the different colors should become fixed and could be depended on to come true from seed, we believe they have never succeeded in fully attaining this. True, a large number of named varieties are advertised each year, and for general purposes they come true enough from seed, but if the grower finds some "sports," or what he deems mixtures, where he expected the bloom to be uniform in type, he must remember that it is not the fault of the seedsman, but a characteristic of the *Phlox*. Seed may be saved from a plant, for instance, that shows nothing but a white or scarlet flower, and sown by itself next year, a great variation in the color of the flowers thus grown will be seen. Even on one plant, flowers of various shades of color, and differently marked, often occur. The principal colors of *Phlox* are purple, scarlet, rose and white, with varying shades. No fine yellow is known, although the *Isabellina* takes on that shade slightly, being a shaded white or dull yellow. Neither is there any dark variety like the darkest Pansies. Eye markings and stripes distinguish named varieties.

Amateurs will find it an interesting work to endeavor to fix certain types of the *Phlox*, and grow pure varieties. There will be disappointment enough attending it, however, as after two or three years trial with fair success, it is not unfrequent to have a lot of seed or plants break out into several types, even if the utmost pains have been taken. But the *Phlox* in any of its types is so beautiful and constant and profuse of bloom, that it will long remain one of the first favorites among annuals.—*Rural Home*.

The Balsam.

A bed of Balsams makes an inferior show unless the plants have been pruned and trained so as to expose the flowers fully to view. In its natural state the flower is obscured by the leaves of the plant and it is too short stemmed for use in bouquets. But by judicious pruning its beauties may be fully displayed, and it becomes one of the most showy of annuals. The methods of pruning are two: one confining the growth to a single stem by taking off the side shoots, and the other allowing two or three side branches to grow and removing the center shoot. Either method will show far superior results to the natural and untrained growth. The Balsams are

strong growers, and varieties embrace many choice colors. The dwarfs show, when well grown, a mass of bloom, and are extremely pretty.—*Rural Home*.

The Gloire de Dijon Rose.

A correspondent of *Hearth and Home* recommends the north aspect of a house as the best place for this famous rose. We fear our latitude is rather far north for it, but it is worth trying here. He says he found it growing fifteen miles north of Philadelphia, where it was protected from the sun in winter by the position of the house, entirely unprotected. It had been planted for six years, and it had not been injured by frost. He says:

The stem, one foot from the ground, would measure about four inches in circumference, and from the ground to the end of the terminal branch the tree measured about eighteen feet. This rose-tree has annually produced a profusion of flowers. Where this rose is growing, the Delaware river is about half a mile in width, and it has nothing to protect it from the severe northerly winds. It seems to me that this rose must be more hardy than its congeners; than a northern and exposed aspect arrests late autumnal growth, thereby favoring the perfect ripening of the wood; and its complete protection from the sun during the winter prevents the flow of sap which would occur if it occupied a southerly aspect. An examination of the plant referred to has taught me a lesson; and as soon as the season will permit I shall plant several Gloire de Dijons on the north side of my residence.

Pœonies.

The greater part of the pœonies in cultivation originated from species natives of very cold climates, and some of the earliest blooming sorts come from Siberia. Some of these are very beautiful, and bloom with the Hyacinthe, Snowdrop, Tulip, and other early spring-flowering bulbs. One of the prettiest of these Siberian pœonies is the double fringe-leaved *P. tenuifolia pleno*. The flowers are deep crimson, and only about two inches in diameter. It is an improved variety of the wild, single species, and only grows six to ten inches high. The foliage is as handsome as the flowers, being finely cut, looking more like green feathers than leaves. There are also several other Siberian species, such as the *P. tritenatar*, or thrice-three-leaflets, and the *P. vestalis*, or white Siberian, *P. uniflora*, or one-flowered, and many other beautiful species and varieties. The rage for new plants has made people overlook these old and valuable plants, and has resulted in a great loss to our gardens.—*Rural New Yorker*.

A Grand Herbarium.

The herbarium of Columbia college, New York, is to have added to it the immense collection of Dr. Meissner, the distinguished Professor of the University of Basle. This herbarium contains 63,000 species, and is purchased for the college through the liberality of J. J. Crook, Esq., a wealthy amateur scientist. The present herbarium of the college is founded on the invaluable one of Dr. John Torrey, and is especially rich in typical specimens. With the proposed addition it will be the largest herbarium in the country.

Knots on Plum Trees.

A Maryland writer to the *Practical Farmer*, says: Sixteen years ago I came to this place, and found a young Morello tree, very badly affected with knots. For an experiment, I went to work and cut all the small branches off, and was careful to burn them; and those on large limbs, such as we did not wish cut off, were shaved down and saturated with spirits of turpentine. The next year, finding the knots much decreased in number, the treatment was repeated—and following it up from year to year, the tree is now living and thrifty, as are also several young trees, which I have since planted. I believe this treatment, if strictly followed, will overcome this affection, for I see in this section even wild cherry trees entirely dead from the above disease (or, as I believe, insects).

Horticultural Notes.*Dr. Hull's Circulo Catcher.*

Dr. Hull says he is able to go over 960 of his trees, three years old, in $3\frac{1}{2}$ hours. This is at the rate of 275 trees an hour, or nearly five a minute. Pretty rapid work, the ground must be clean, trunks straight, walking quick, and knocking quicker still. The new machine now being patented is suspended from the shoulders of a man standing in the center (instead of as formerly mounted upon a wheelbarrow). A slit a foot wide in the canvass before him enables him to carry the machine under and about a tree, when the slit is covered by a strip of cotton easily and quickly, and the tree struck with a covered mallet or maul. The machine weighs only eight or ten pounds.

Mulching Cherry Trees.

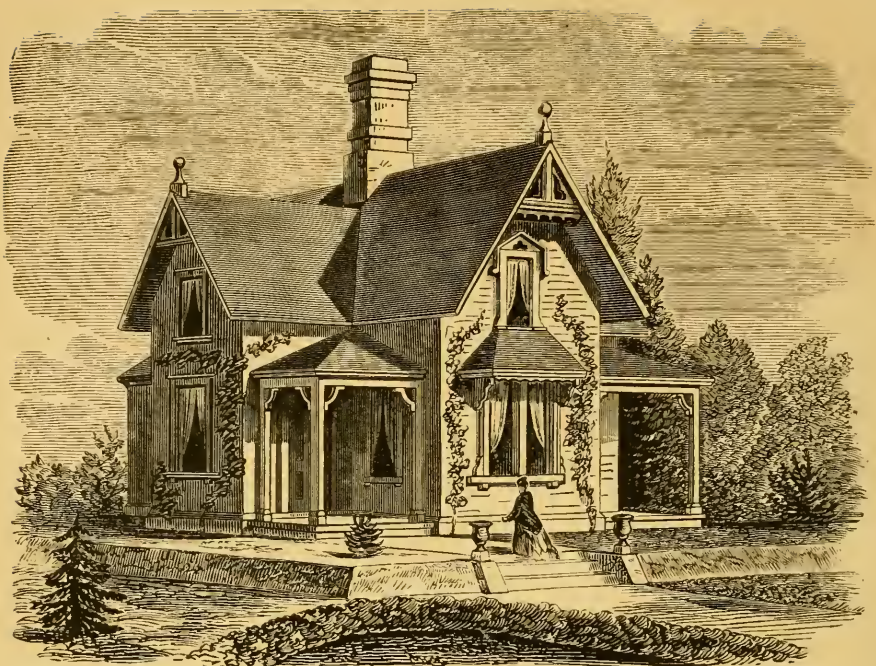
The *Country Gentleman* recommends mulching a space four or five feet in diameter, around young cherry trees set out last fall or spring, as they are very apt to die from the heat of midsummer.

Burns' New Black Cap Raspberry.

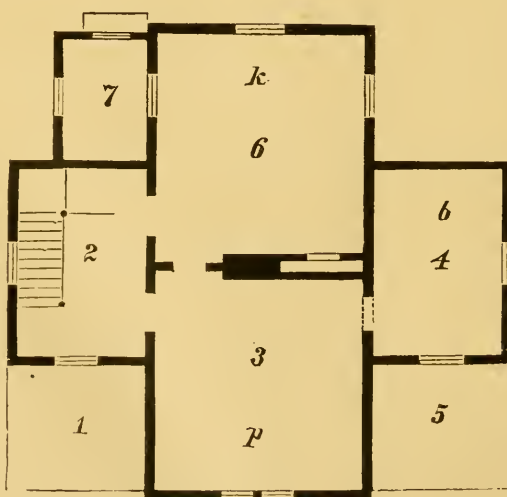
The *American Rural Home* is much pleased with this, and thinks it better than Doolittle. Two years ago, this last spring, we received by mail from Mr. Burns, one plant, from which we made a year ago twenty. Last year the one plant fruited, and this year the one-and-twenty. It is a very hardy, vigorous cane, and exceedingly productive, the two-year-old cane yielding over two quarts, and the yearlings very heavily loaded. The berries are larger, more pulp in proportion to the seeds, and more bloom than Doolittle, juicier and sweeter. As regards its flavor, we find quite a difference of opinion among those whose tastes we have consulted, some preferring Doolittle on account of greater acidity; others giving preference to Burns. From present indications we believe that it will prove more profitable as a market berry than Doolittle, from its being earlier and more productive.

Profits of Orange Culture in California.

Charles Nordhoff, gives in *Harper's Magazine*, some very astonishing reports of the profits of orange culture in California: Sixty trees are planted to the acre. They come into bearing slowly, but at ten years from the seed, or eight years from planting out the nursery trees, the lemon will bring 600 and the orange 1,000 to the tree; and I have seen 2,000 lemons, or 2,800 oranges, on a single tree at fifteen years of age. Now lemons sell in San Francisco at \$30, and oranges at about \$15 to \$35 per thousand; and from the tenth year of a tree's age, with good culture, irrigation, and in a fit climate—that is to say, almost anywhere in California south of Stockton—these trees are found in practice to yield at the very least, \$10 clear profit per tree, or \$600 per acre. This is a very low statement, far below the present actual yield of orange orchards in Los Angeles and San Bernardino. I know an orange orchard of nine acres, near Los Angeles, which has brought its owner \$8,000 per annum, clear profit, for several years past. One man's labor serves to keep in perfect order twenty acres of any of these fruits. But it should not be forgotten that all these fruits are the better for irrigation. They grow better and faster, and bear more regularly and freely; and the orange and lemon, particularly, will, I am persuaded, bear but poorly without water, though some people deny this. The most skillful orchardists in Southern California now irrigate once in six weeks, and, of course, plow after every irrigation. I have no doubt that the frequent plowing is a great help to the trees. There are people in California who imagine and assert that the ground ought not to be plowed or otherwise disturbed in this State during the dry season, but such men do not succeed in farming there or elsewhere.



DESIGN FOR PRETTY COUNTRY COTTAGE.



Plan for First Floor.



VOL. 27.

DECEMBER, 1872.

NO. 318.

Rural Taste.

A Paper by Henry T. Williams, Before Wisconsin Horticultural Society.

TO encourage the growth of rural taste, we need not only to begin in a practical manner, for especially in rural studies, theories never accomplish any decided result.

The subject of Tasteful Home Adornment seems to me to be the most inviting of all topics of the time, and if I do not mistake the tendencies of horticultural interest and progress, at the present day, it will be the most prominent object for the future, in our plans for rural improvement.

Fruit culture has its fevers, its balloon-like ascensions in the scale of enthusiasm, and again its disastrous collapses. But the more quiet joys of the garden, the pleasure ground, the flower bed, the conservatory, and the window garden, are to be henceforth of more permanent winsomeness.

What more encouraging topic can there be than that of Home Improvements? Indeed, I fear many do not estimate them aright, for the commercial value of a well decorated country home, and its pleasant surroundings, are a far greater argument and incitement to keep the subject alive, than anything our pens or lips might enforce.

Just imagine a long avenue in some of our inland towns, or in the suburbs of our large cities, upon which are scattered a double row of lately built houses. Some of them stand there as naked as the day they were first erected. All are built after one pattern, one is just as good as another, but somehow you discover, as you pass down the walk, that there is a very manifest difference in them, after all.

Right in the middle of the row you stop before a cottage, and see something to win your admiration. The loving housewife has induced her husband to purchase flower seeds, bulbs, stakes, arbors and trellises. The good woman, determined to have something of taste, better than her neighbors, has dug up the soil, laid down a nice sod, here and there has cut out a little figure, and planted some flowers; perhaps

she has indulged in the pleasure of flowering some choice gladiolus, or has trained to a stake her finest fuchsias, roses and dahlias. She has planted close to the house, and right under the bow window, the roots of climbing vines, and now, in the hot summer, they are growing rapidly upward, a more welcome relief to the otherwise plainness of the walks. Back of her home she has erected an arbor, and grape vines are covering it with their leafy greenness.

Evergreens have been brought there and planted in the little lawn, and a handsome shade-tree or two has found an appropriate place, while here and there are other tasteful touches, showing the presence within of a fond and gentle lover of Nature.

Now as you stand there looking upon this picture, which is far more elaborate than we can paint, do you not feel as though the commercial value of such a residence was far above those surrounding? If you were purchasing a house, and the owner of this charming home asked \$1,000 more for it than others close at hand, which originally cost the same, you would not think it dear, and you would be tempted to pay it.

So you will find everywhere, that a tastefully improved home not only brings a better price in the real estate market, but is also more quickly disposed of in a sale.

Bless the ladies! for to them we owe more than half the interest in elegant or tasteful home surroundings; and I sincerely believe at the present day, if we wish to extend the good work of rural taste, let us first talk to the ladies. Let them then, carry on the battle with the half yielding men and husbands, and let us adapt our rural and horticultural literature more appropriately and practically to the needs of *beginners* and especially in the development of the attractions of their rural homes. We need more sensible suggestions about *home gardens*, and less about "gardening for profit." We want more to see efforts made to tell our friends and neighbors how to care well for their *acre or two* and be satisfied with that, than to be dazzled with the doubtful glories of "ten acres enough." We need more sweet and winning words how to plant and care for the *flowers*, the lilies and roses of our flower gardens, rather than have our enthusiasm wrought up to the highest pitch by the prospect of "\$5,000 a year from my greenhouse." We need more of the sensible education, which will teach people to love the plants for themselves, rather than the profit they can be made to bring. Nothing is so fatal to the true interests of horticulture as the constant thought of profit.

If disappointment comes, the heart is embittered, the cultivator drops all interest and efforts, and we behold a solitary blank where there ought to have been a happy, genial enthusiasm.

A single gladiolus, a new and choice variety—the Meyerbeer—which I sent to a lady friend in Delaware last spring, was planted in a little flower bed close by the fence, near the front walk. It shot its long spike-like leaves upward to prodigious height, before its stem of glorious bloom was disclosed. But oh, what a glorious sight! it were vain to tell the rhapsodies of visitors who gathered daily, only just to look at the unparalleled sight; and for months that one flower was the constant talk of the neighborhood. Need I tell you that it has given a furore to flower planting such as never was known before; and florists' catalogues find their way thither by the

dozen, to be closely scanned, where three years ago not one was known. But the interest stops not with flowers; gradually flowering shrubs find their way into such home gardens, then climbing vines, then comes the improvement of the garden, the desire for choicer fruits and garden vegetables, then evergreens, then ornamental trees, and when once obtained, there is sure to follow the thirst for knowledge how to care for them. And so we see the field opening up for the encouragement of our rural literature. Rural books are wanted, and rural papers then find their place.

If you would have your horticultural societies popular, find something for all to do, the ladies, the young; give premiums even to the boys and girls for their best flowers and specimens of gardening; infuse more social element into your gatherings. Few of our horticultural societies, for men exclusively, hold their interest unabated for more than three years; but if you introduce more of the sweet, social and domestic home feelings into their management, they will be found far more influential and efficacious.

Flowers are to my mind the easiest, and I might say, the noblest means of horticultural grace, and of all the signs of the times, nothing is to me so satisfactory as to watch the wide-spreading taste for flower culture, for I know that where flowers have once found a home in any garden, the love of the owner will not rest, but will add year by year something new to help make home still more beautiful.



A Pretty Country Cottage.

THE design illustrated in our frontispiece this month, is one which will commend itself to a multitude of citizens who wish for a pretty design of a country cottage at moderate cost.

For a majority of country families, needing but small space, this is exactly suitable. From consultation of plans, it will be seen there are five rooms on first floor, and three rooms on second floor:

1. Entrance porch—about 8 feet square.
2. Hall and stairway—8 feet wide, 11 feet long.
3. Parlor—12 feet wide, and 12 feet long.
4. Bedroom or library—8 by 11 feet.
5. Porch, fronting No. 4.
6. Kitchen—12 feet square.
7. Pantry or back lobby—6 by 8 feet.

Rooms on second floor are same size as those immediately below them.

The roof can be ornamented still more than is shown in the illustration, and made much more elegant. This can be built in any country district for \$1,500, where timber does not exceed \$35 per 1,000, or labor \$3 per day. It would be also an excellent design for a garden, a cottage, or summer-house among the country hills.

Woodward's Gardens, San Francisco, California.

Few, but those who have visited these gardens, can have any idea of the large amount of valuable and instructive material and the specimens which, by the spirited enterprise and untiring industry of the proprietor, Mr. R. B. Woodward, have been here accumulated and presented for the delectation of the public in so attractive form, as to obtain for them the well-deserved designation of "The Central Park of the Pacific."

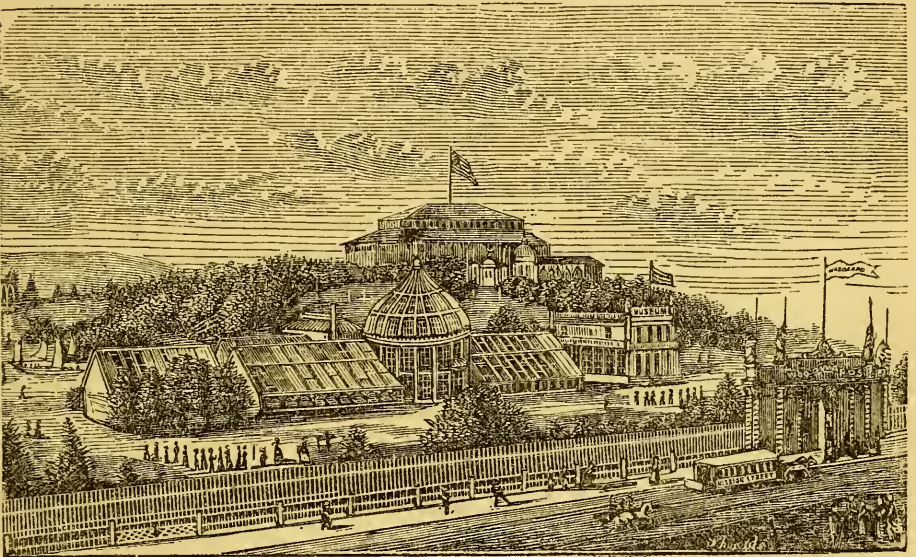
And very few of those who *have* visited them are yet fully aware of the great wealth of each of the departments in rare and choice specimens: but whether fully appreciated or not, the people are evidently improving in their taste, as is evinced by the continuous, vast, and progressive increase of visitors, year by year, and even noticeable daily. This is as it should be, for admitting that many of the visitors derive mental rest and amusement, and physical exercise and recuperation from a stroll in the gardens, after close confinement by city occupations, or domestic duties, yet many others, from distant parts of the State, make acquaintance for the first time with many beings of the animal and vegetable worlds, of which, previously, they had very indistinct ideas; and others, again, are afforded the much coveted opportunity of relaxation in the society of some esteemed companion; admitting that these are excellent reasons why these gardens should be very highly estimated and well-supported, how much more important and valuable are they, situated as they are in the heart of this large and rapidly growing city—"The Metropolis of the Pacific Coast"—as a means of combining healthful and invigorating exercise with that most potent, most delightful, and efficient mode of educating the rising generation—*education by objects*. Only those who have had the opportunity (as the writer has had for 25 years) of watching the development of the young, mentally and physically, under the guidance of an earnest instructor, with the facilities of a rich museum, a fine garden, and an expanse of country for exercise and search of objects, can truly appreciate their value in this respect, and can set a proper estimate on the public spirit of him who, at first, threw these gardens open gratuitously for the edification and amusement of the young.

The Legislature of the State of California, from time to time, makes appropriations to sundry societies for their support and encouragement as beneficial to the public, yet some of them make but indifferent use of this liberality. The Bay District Agricultural Society, for instance, expends its subsidy in that demoralizing excitement—"horse-racing." How much more beneficially might these funds be employed, in adding to those resources for public instruction, botanical and zoological collections—collections of mechanical implements, etc., and galleries of works of art.

We do not know that the enterprising and high-spirited proprietor of these gardens would submit to be subsidized, but many means might be adopted to demonstrate the public's and the State's appreciations, even as in England, the collection at the Gardens of the Zoological Society, London, has been, from time to time, enriched by presents from the Queen, from foreign Princes, and from princely commoners. But this is not the object for which we took up the pen. We proposed to ourselves the pleasant task of lightly sketching the origin, progress, and development of these gardens. Therefore to our task:

This very popular place of resort is located in the southern portion of San Francisco, between Market, Mission and Thirteenth and Fifteenth streets; the area is from five to six acres, and of so diversified surface as to afford, not only very pleasant local scenery, as well as very fine views of the entire gardens, but even extended prospects of portions of the city, and of the surrounding country, the bay and the distant mountains.

The proprietor, Mr. R. B. Woodward, a gentleman not only of wealth, but of considerable taste and refinement, projected the gardens in 1860, as the surroundings to his private residence, and once initiated, spared neither time nor expense to add to, to beautify and adorn; every advantage was taken of diversity of surface to increase the local interest, and to enrich the scene. Ornamental buildings of unique design were appropriately located; rockeries constructed, a miniature lake



Woodward's Gardens, San Francisco, California.

formed, which is fed by a stream passing through the grounds. Conservatories were constructed, and an art-gallery built. Many thousands of choice native and exotic trees and shrubs were planted, which have now grown to be one of the greatest glories of the place, and are the delight of the numerous visitors, and the admiration of the many botanists who here have opportunities of seeing, in vigorous growth, what would else cost them an immense amount of travel. A menagerie was established, which has gradually grown to be quite an important feature. And during his continental travels, in 1861, Mr. Woodward exhibited his taste in the selection and accumulation of paintings, characteristic of many schools of art, for his gallery; marble statuary from Italy for the embellishment of his grounds; articles of vertu for his museums, and choice plants for his conservatories. He returned with renewed zest, and well-stored and selected ideas for the further development of his ornamental grounds, and applied with ardor to the perfecting of his design; the walks

were carefully laid out; lawns laid down; parterres of flowering plants and belts, and groups of minor shrubbery, artistically disposed so as to concentrate as much diversity and variety of scenery as possible, without apparent crowding. Under intelligent, careful, and diligent management, these gardens matured rapidly. Trees and shrubs assumed a most vigorous growth; the lawns established a firm and dense sod; exotics of the choicest kinds filled the conservatories, and vigorous young vines of most approved hot-house varieties occupied the vine-house.

The paintings in the art gallery; curiosities in the museums; statuary in the grounds; the rockeries and various ornamental constructions, had shaken off their apparent newness, and become part and parcel of the fairy-like scene. The menageries had received many a strange denizen of the forest, and the aviaries contained various curious specimens of the feathered tribes, whose peculiar and combined utterances added a new and startling sensation when strolling around the grounds in the cool of the evening.

But although Mr. Woodward had thus far expended many thousand dollars for the embellishment of his home, and with no other ulterior purpose in view, he was not permitted to enjoy it in peace. Of a hospitable and kindly nature, he had not only freely admitted his friends, but permitted them to introduce their acquaintances, and thus his home gradually and progressively lost its sacred privacy.

In 1866, the gardens, etc., had so far established themselves, that they appeared to possess the maturity of many of the older establishments of the East and of Europe. Public curiosity had become greatly excited, and every artifice (some discreditable ones) employed to obtain a view of the grounds.

The public need in this city, in fact in the State, of such a means of combined recreation and intellectual instruction as his gardens afforded, was urgently pressed on Mr. Woodward. He listened with deference to the oft-repeated suggestions of his friends to "open the gardens to the public," but shrank from the position, as well as from the sacrifice (to him unnecessary) of a favorite, and ardently indulged-in passion. The feelings which prompted the accumulation for private enjoyment of such collections as his, only those who have "collected," can appreciate. At length, early in 1866, he so far conceded as to open the grounds for the benefit of the sanitary fund, and yielding at last to the general wish, the gardens were permanently opened to the public on the 4th of May of the same year, much to the delight of thousands, who eagerly availed themselves of the indulgence. Since that time, this popular place of amusement has unceasingly increased in favor, which is richly due to the public-spirited proprietor, who spares neither trouble nor expense to increase the attractions, as well as add to the rich collections, expending far more than the receipts in the gratification of this passion of his.

Since the gardens have been thrown open, many attractions and improvements have been added. The Lodge at the gate has been arranged as a library, containing several thousand volumes, many of them richly illustrated, and very rare and costly.

The mansion itself has been fitted up as a museum, for a magnificent collection of beautifully preserved birds, of which there are over 4,000, many of them very rare (one case in particular deserves careful inspection, being filled with extremely choice specimens of rare birds of the most brilliant plumage, most gracefully and artistically

displayed and contrasted), and a collection of Quadrupeds, numbering between three and four hundred, from the enormous polar bear to the minute harvest mouse. These specimens were obtained by Mr. Woodward in Paris. The collection of alcoholic specimens, is also very numerous and interesting. Considerable additions have been made to the conservatories, which are nevertheless brimming full of choice plants.

A gymnasium has been established for the amusement and healthful exercise of the visitors.

A pool and rockery for seals has been constructed, which is now well-stocked with various species, several of them monsters.

An amphitheatre, which will accommodate several thousand persons, has been arranged in that portion of the grounds, which is approached from the gardens by a tunnel under Fourteenth street, and the zoological collections has been established in roomy quarters in this portion of the grounds.

A restaurant, with spacious saloon, platform for the band, elevated watertank, which is also utilized as an observatory. A Turkish mosque for an arbor, and numerous seats and tables for the accommodation of visitors, are grouped beneath the shade of the dwarf oaks which clothe the hill in the northern angle of the grounds, and more recently a magnificent hall, capable of containing an audience of 5,000 visitors, has been added to the group, for concerts and similar purposes, as well as for a skating rink. A portion also of the zoological collections is located on this hill, while in the neighborhood of the amphitheatre, a spacious house has been erected for gallinaceous birds, and a very roomy one for the monkeys, etc.

Among the most recent additions and improvements (and as yet not finished), is that of a *marine and fresh water aquarium*. In this Mr. Woodward is in advance of the Eastern cities. This new feature has been projected on quite an extensive scale. Only those who have had the opportunity of contemplating the curiosities of one of these superb collections, can form any idea of the pleasing novelty and fascinating wonders of such a scene. Everything is new and strange, and the beholder can scarcely divest himself of the idea that he is in a rocky cave at the bottom of the ocean, looking out through crevices in the rocks upon deep-sea scenery, teeming with strange life. Fish, to him previously unknown, disporting among coral rocks, adorned with marine plants of curious growth. Algæ, Rhodospereæ, Fuci, etc., Polyps, Zoophites, of curious forms; Actiniæ, Asteroids, Echini, Annelidæ; innumerable varieties of strange insect life; Molluscs, of various kinds, traversing the sandy and rocky bottom, Crustacea, etc., etc. The Sea-Anemones are particularly interesting as specimens of animal flowers. Adjoining the conservatories and joining a portion of that group of buildings, are the Art-Gallery and one of the museums, both beautifully frescoed and well-lighted. The former contains between seventy and eighty paintings in oil, many of them of considerable merit, and also two exquisite busts in Parian marble, by Hiram Powers; while the latter contains also two very meritorious pieces of statuary; two fine cases of choice stuffed birds; a large collection of birds' eggs, from the gigantic Ostrich to the diminutive Hummingbird; a case of entomological specimens; a cabinet containing a numerous and miscellaneous collection of coins, besides other curiosities from every part of the world.

A rotary boat is secured in the middle of the miniature lake, and affords abundant amusement to many of the juvenile visitors, while the outlet to the lake is the resort of a fine collection of rare aquatic fowl.

In the Zoological Department, the Carnivoræ are represented by a Royal Bengal tiger—truly a royal beast.

Jaguars, pumas, tiger cats, etc. There are various curious specimens of dogs, and foxes are in great variety; also several species of mustelæ, weasels, pole cats, ferrets, etc. The Simiæ are abundantly represented by specimens of many species of monkeys, apes, baboons, etc.

Bears are in considerable variety. The Cervicæ comprise fine representatives of elk, reindeer, fallow deer, etc., etc., and there are some curious varieties of sheep and goats.

There are also camels, dromedaries, Llamas, vicuna, buffaloes, kangaroos, beavers, otters, badgers, opossums, racoons, and peccary, etc., etc.

The birds are numerous, and in great variety. Among them are Emu, and some noble specimens of Raptores.

Among the reptilia—alligators, iquanas, chameleons, snakes in variety, etc., etc.

We have previously spoken of the rich collection of trees and shrubs which adorn the grounds. We will enumerate some of the varieties which are in vigorous growth, that our friends may judge for themselves how far we are justified in our commendation of the collection, as well as the judgment and taste displayed in the selection, and the care in their cultivation:

Of Magnolias—there are *M. grandiflora*, *M. acuminata*, *M. tripetala*, *M. conspicua*, with several others.

Of Aucubas—*A. Japonica*, *A. maculata*, and four others.

Myrtus—four varieties.

Crategus—three varieties.

Myoporum acuminatum.

Of Abies—*A. excelsa*, *A. Douglasii*, *A. Deodara*, *A. excelsa inverta*, *A. Smithiana*, *A. nigra glauca*, with three or four others.

Of Sequoia—*S. gigantea*, *A. sempervirens*.

Of Acacias—there are *A. melanoxylon*, *A. armata*, *A. fragrans*, *A. rubra*, *A. lophantha*, *A. linearis*, *A. latifolia*, *A. verticillata*, *A. semperflorens*, *A. cultriformis*, with four or five other varieties.

Of Cupressus—*C. funebris*, *C. Lawsoniana*, *C. McNabiana*, *C. pyramedalis*, with several others.

Corynocarpus lævigatus.

Of Thujas—*T. occidentalis*, *T. orientalis*, *T. Tartarica*, and one or two others.

Of Araucarias—*A. Cunninghamii*, *A. Bidwellii*, *A. excelsa*, *A. Cookii*, *A. Brazilianensis*.

Of Agave—*A. Americana*, *A. variegata*.

Of Cryptomerias—*C. Japonica*, *C. elegans*.

Of Cedrus—*C. Libani*, *C. deodora*, and others.

Of Juniperus—*J. Chinensis*, *J. Canadensis*, *J. repens*, *J. excelsa*, *J. glauca*, with some others.

Of Libocedrus—*L. decurrens*, *L. Chilensis*.

Of Pinus—*P. excelsa*, *P. ponderosa*, *P. Lambertiana*, *P. tuberculata*, *P. Sylvestris*, *P. Benthamiana*, *P. Cembra*, with others.

Of Piceas—*P. grandis*, *P. nobilis*, *P. Pinsapo*, *P. Cephalonica*, *P. Webbiana*, *P. religiosa*, with others.

Of Pittosporums—*P. tobira*, *P. variegata*, *P. nigrum*.

Of Eucalypti—*E. globulus*, *E. gigantea*, *E. amygdalina*, *E. nisdonii*, *E. obliqua*, with seven other varieties.

Of Prunus—*P. sinensis*, *P. triloba*, and many others.

Thuopsis dolabrata.

Phormium tenax and *variegata*.

Of Dracenas—*D. cordylina*, *D. fragrans*, and others.

Of Melaleucas—*M. Cajuputi*, and others.

Of Metrosideros—*M. robusta*, *M. tomentosa*, *M. scandens*, and others.

We will also mention a few of the denizens of the greenhouses, which caught our eye in a recent perambulation; not as a catalogue, which would be an endless task, but merely to enable our distant friends to form some idea of what the collection consists; premising that owing to the geniality of our climate, the plants we particularize are magnificent specimens:

Musa paradisiaca—*M. sapientum*, *M. Cavendishii*.

Laurus—*L. nobilis*, *L. Persea*.

Cinnamomum—*C. Zeylanicum*, *C. cassia*.

Anthurium regale.

Cycas revoluta—*C. medica*.

Corypha australis.

Alocasia—*A. Bataviensis*, *A. metallica*, and one or two others.

Chamærops humilis; *Latania Bourbanica*; *Thrinax elegans*; *Phœnix dactylifera*; *Coffea arabica*; *Areca Madagascaria*; *Cocos nucifera*; *Seaforthia elegans*.

Dracenas—*D. latifolia*, *D. Cooperii*, *D. terminalis*, *D. nobilis*, *D. Australis*, *D. Draco*, *D. nigricans*, *D. spiclada*, *D. ferrea*.

Crotons; *C. pictum*; *C. discolor*; *C. Eleutheria*; *C. variegata rubra*.

Goodyera discolor; *Cissus discolor*; *Mangifera Indica*; *Psidium cattleianum*; *Strelitzia reginae*, and others.

Crinum amabilis—*C. Africana*.

Marantias—*M. zebrina*, *M. discolor*, *M. sanguinea*, *M. Warscewiczii*, *M. tuberspatha*, *M. lineata rosea*, *M. lineata alba*, and others.

Costus zebrina.

Fittonia argyrea—*F. Verschaffeltii*.

Cypripedium insignis—*C. venustum*, with others.

Calocassia esculentum.

But we must cease enumerating, as the task is endless; every department is receiving fresh accessions continually, and we hear that most extensive improvements are in contemplation.

Pencil Marks by the Way.

BY OCCIDENTALIS.

Some Summer Apples.

IN the spring of 1859 or '60, I planted a little orchard of sixty odd apple trees—on good upland limestone clay soil, on the Mississippi Bluff, about one hundred and fifty feet above the high-water mark. The ground was new, having but just been cleared of its timber, consisting mainly of oak and hickory, with hazel underbrush.

The trees were three years old, in the nursery, at the time of transplanting; so that they are now sixteen or seventeen years from the graft. Their cultivation has been moderate, the ground having been devoted to annual crops of corn, potatoes and other garden vegetables, until the last four or five years. It is now seeded down to clover, from which one crop of hay is annually taken.

Among the twenty varieties of apples planted, there are a few valuable summer sorts—and it is of these only that I now wish to write:

1. *Red Astrachan*.—This apple I class as A No. 1, in every particular, for this locality. The tree is hardy, shapely, and a good grower, and a good, though not an early bearer—being about medium in that respect. And it produces a crop of uniformly handsome fruit; when fully ripe, highly colored, and very attractive. As an eating apple, it is good, about tart enough to please most palates; and it is, besides, a most excellent one for cooking. It has become very popular as a market apple, and has commanded a higher price in our markets than any other known. It has one drawback: it is a great favorite with the birds—not so much so, however, as the Carolina Red June.

2. *Early Harvest*.—This apple I place as second on the list for value. It is better known in this region than the Astrachan. It is an earlier bearer also, and generally—not always—produces fine showy fruit. I say *not always*, because I have sometimes known it to *scab*, which it did this year to some extent. As a market apple, it is valuable, being also good for cooking purposes. It ripens more evenly than the former, and can be sold at nearly as high a figure.

3. *Maiden's Blush*.—Still a little later, say all through the last half of August and into September, comes the Maiden's Blush; an apple that without a name would be prized by those who know it, but whose name has helped in no small degree to render it popular. It is admirably adapted to follow the other two, and would bring as high a price, were it not that apples are now becoming more plentiful, and it has a larger list to compete with. The tree is not called a hardy one in the nursery, but seems to improve with age.

4. *Golden Sweet*.—Of the summer sweets, this deserves favorable mention for its high character as a baker. The tree is a handsome grower; yields an average crop of beautiful golden fruit, of about even date with the Maiden's Blush. Sweet apples do not usually sell well in market, mainly because so few people know the value of a baked apple. So that, in a market orchard, two or three Golden Sweets to the hundred trees would be enough. There may be other sweets as valuable, but I do not know them.

Such is my dozen years experience with apples here. Of three hundred trees on my grounds now, I shall top-graft not less than forty or fifty to these four sorts, mainly the first.

I must mention one other, on which I had built high hopes; but which has most wofully disappointed me—the *Carolina Red June*. A most beautiful apple, when perfect, that boys and birds admire—to say nothing of men and women; it seldom yields a crop that will save it from utter condemnation. Bears well, but will not perfect its fruit—scab, scab, always! I have tried manuring; I have coaxed it with lime; I have preserved it with salt—all to no purpose. It is doomed.

Banks of the Mississippi, August, 1872.



Changing the Tops of Apple Trees to Pear.

BY W. W. TIPTON, BURLINGTON, KANSAS.

EDITOR WESTERN HORTICULTURIST: I have never succeeded in grafting pear on apple roots, worthy of much commendation, except where I could set the tree deep enough in loamy soil, or on rich hill sides, where the soil would gradually accumulate over the stalk to not smother the apple power until the pear produced roots of itself. I have raised a few very fine pear trees in this way, and gathered fruit early and largely therefrom. I have some here doing well now, but never offer to sell them, as they are too short lived except treated as above. However, out of eight hundred French Quince, purchased of M. B. Bateham, of Columbus, Ohio, about eighteen years since, found as sure and speedy deaths (so far as the pear was concerned), as did my pear on apple. I have not the conscience to recommend either from my nursery.

When I wrote the article you allude to, in the *Kansas Farmer*, I had in my mind pears grafted or budded on bearing apple trees alone. It is the quickest, surest and cheapest way I ever grew pears. I never picked better pears from standards, or any other under growth for the pear, than I have picked from old apple trees, topped and budded or grafted with pears; and they always bore early and profusely. In large apple orchards, sometimes, and more too, are found worthless, scraggy trees; on such I have practiced changing to pear. I never failed in two years to get a good crop. In some trees, the pear would die out in five or six years, while others were healthy to my knowledge eighteen years, and still doing well the last I saw them, in 1865, in Franklin county, Ohio. To insert but one to three grafts in a large apple top, they will soon smother out and die, and some grafted apple tops (varieties) will not grow pears well from my grafting or budding knives. The more seemingly the top of the apple to the original seedling, in good health, the longer the pear lasts, and the more profitable to the grower. I have only practiced this for my own benefit. I have never recommended it, except to scienced grafters or budders.

I am practicing the same system in my uncertain looking apple tops here. The grafts and buds are all looking well. I never depend, however, on this mode alone. The pear root always for pear orchards for me. I have dwarfs, but would not give one good standard, or one well set apple top for a dozen of them, unless the pear can be made to take root, by the time, or soon after, it comes in bearing.

I would say to all men of forty years and upwards, who have no pear orchard (standards), to do as I am doing on apple, where they have a surplus of trees, and

are good grafters or budders. One life is too short to know all about this luxurious, yet uncertain fruit. It would take a lifetime to know how to ripen and handle a dozen new varieties to best advantage. And after all hope and praise over my forty years trial, pet seedlings had faded, I die, with eleven varieties worthless, and no one but my heirs could see the worthy twelfth—not even the sharp pomologist. I have never tried pears on Mountain Ash. I have had many other things of more importance to me. I have some stalks to try them: but have no doubt the next generation will know less of them, in the United States, than the present.

The Grape.

Permit me now to say, we have another fruit here much easier and earlier raised than pears; we are just commencing to use them now, ripe, sweet and fine. It is the grape. Concord takes the lead. It would be of no use for me to tell you the number of acres planted, and tons bearing, within sight of my home. You would not believe it.

I will say something I don't expect you to believe. I can pick more sound grapes from 200 vines, planted one year last spring, than I ever knew raised in Franklin Co., O., and marketed in Columbus, for the first forty years after its settlement. I have learned, since I left there, they are doing better, however.

I have predicted that if the mania continues and farmers call for and plant grapes by the thousand, as in the last three years, wine will be as abundant in twenty years as in any part of this globe.

Returned citizens from California, living now in our town, tell me they have tended large vineyards there; that one acre here will produce more grapes than twenty acres there. There, no trellis or pole is used, except in setting the vine, the first two years, and after left alone from two to three feet high, and cultivated as we do field corn; while ours need, and will literally cover a trellis in two years—vines planted eight feet apart.

The White Grubs—Small Fruits.

EDITOR WESTERN HORTICULTURIST: My strawberry plants have suffered this season severely from the ravages of the common large White Grub. Is there, to your knowledge, any remedy? Is there any kind of manure supposed to be a preventive? What do you think of lime, ashes, or plaster, and how best applied?

I consider the Wilson and Green Prolific the best varieties of the strawberry for market. As for raspberries, my estimation of the leading varieties may be thus expressed:

Seneca and Philadelphia, 100; Mammoth Cluster and Miama, 90; Davidson's Thornless and Golden Thornless, 75; Doolittle and Purple Cane, 60.

O. MOFFET, *Ottumwa, Iowa.*

REMARKS.—It is the White Grub described and illustrated in October number. We do not think the application of ashes, or any kind of manure will tend in the least to check its depredation. We had thought that very late fall plowing might, to some extent, destroy it, but investigation seems to show that on the approach of cold weather, it seeks winter quarters below the depth of an ordinary plow. It may be that summer fallowing of ground infested may expel it. It has become a serious evil. We hear of its ravages from all quarters.

The European Larch.

BY PROF. JAMES MATHEWS, IOWA AGRICULTURAL COLLEGE.

EDITOR WESTERN HORTICULTURIST: I was glad to see the article of my particular friend and co-worker "G. B. B.," in the September number of THE HORTICULTURIST, on the subject of the European Larch. When such gentlemen take hold, we have a fair prospect of getting to the bottom of the question at issue.

I do not discover any point upon which he and I shall materially differ. We may agree when we come to test the matter on the only point of difference which he suggests. I will, before I close, throw out a suggestion or two on that point. It is true, as he says, that there are some kinds of timber quite durable, which contain very little, if any, resinous substance, and to the kind of this character which he names, may be added the Black Locust, which contains nothing of the sort, and is very durable for posts, etc.

Nevertheless, I think the only claim made for the durability of the European Larch, rests entirely upon its resinous properties, and, therefore, I agree with "G. B. B." that, as it grows in many portions of Europe, it would be hard for me to discover why it will not burn. I think there must really be some mistake about this. It is well understood that Venice turpentine is manufactured from the wood of the European Larch, and I am quite sure it will burn.

I know, however, that this timber when grown with me, as far as I have tried it, persistently refuses to burn, and when consumed at all, it will require about four times its bulk of good dry oak wood to reduce it to ashes. But in Loudon's Encyclopedia of Gardening, and all other authorities, as far as I know, it is claimed that the *Larix Europea*, when grown in certain situations in Europe, is one of the resinous sorts of timber.

In the authority above alluded to, page 1,112, Mr. Loudon says: "That species of British timber which approaches nearest to the pine and fir timber of the North, is the Scotch Pine (*Pinus Sylvestris*), when grown in the North Highlands, and the Larch fir (*Larix Europea*), when grown in hilly, or poor districts; resinous timber of the species indigenous to cold countries, when grown on rich soils, and in warm climates, being found deficient in durability." It may be clearly inferred from this, if Mr. Loudon is good authority, that the deficiency in the Larch timber here, results from the growing of it in our rich soil; and hence, I doubt if it will ever be useful in the Western prairies, except for ornamental purposes.

It is possible, as "G. B. B." suggests, that when the trees become large there may be some resinous wood in the heart of them, and as I think I have three or four specimens at home, which are from ten to twelve inches in diameter, at the butt, and perhaps more, I shall take occasion to make an examination when I return to Knoxville, at the close of the College year.

But should there be found at the heart of these, resin or turpentine, would it not be like owning a tract of land covered by some other person's farm? How are we going to get at it, or make it useful? Suppose we find a tree twelve inches in diameter, and in the heart of it there are four inches diameter of wood containing a fair supply of turpentine or resin, how are we going to utilize it? There are four

inches deep on every side of it, of sap-wood, which will rot off in two or three years. How are we to dispose of it? If I remember rightly, these European Larches split about as well as they burn. As we *can't* split off the sap-wood, what shall we do with it? If we use the whole log for a post, in about three years the sap-wood will all rot off, leaving the post only about one-third of its original diameter—a mere handspike. Before using the Tyrolese Larch, therefore, for durable purposes, we must get rid of, or remove these obstacles which stare us in the face.

If we can do this, all will be well. In the meantime I shall make a strict examination when I go home, and about which my friend "G. B. B." shall hear from me. Furthermore, I will send him a block of the wood, if he shall express his wish to have me do so.



"Scabs on Apples—Cause"—Osage.

BY WM. P. LIPPINCOTT, VERNON, IOWA.

EDITOR WESTERN HORTICULTURIST: April number of *Pomologist*, page 98, "Scabs on Apples—Cause." I have one apple tree bearing some forty varieties. This year of extraordinary scabbiness the fruit in this tree is affected as it is elsewhere over the orchard, with a little exception, as to certainty. Those varieties worst scabbed in the orchard, are the worst diseased in this tree. Porters have no scab in this tree, neither have they on other trees, and so of a few other sorts. A Grimes Golden graft on a White Winter Pearmain tree had one apple on it, and it grew to perfection, right in the midst of a quantity of miserably scabbed Pearmain. The exceptions, if they are such, consist in a Roman stem, and a Michael Henry Pippin tree, both on the east side of the orchard, having perfect fruit, while two trees of the same kinds on the opposite side of the orchard, have their fruit badly injured. From these seeming exceptions to the general rule, it rather looks as if the main cause of the disease might be on the west side of the orchard, but this idea is rebutted by Red Astrachan and Rambo being all right on that side. From these facts, as now they exist, I cannot divine the cause of scab; perhaps it is beyond human ken.

How to Make an Osage Hedge.

I disagree with S. P.'s mode of making an Osage Orange hedge as recommended in February number *Pomologist*, page 54. My experience is, that plashing is the best mode of making a fence with this material. I speak from twenty-five years experience. My first fence of the Osage was plashed when it was ten or twelve years old, and is now a barrier to all intruders except rabbits. It is yet healthy and strong, with no indications of dying. The objections to plashing come from not doing it properly. It is a common practice in plashing to get on it and trample it down to a horizontal position. This, of course, makes a good fence for the time being—but will it live? that is, will it, live beyond the stump? From what I have seen of this kind of plashing, I know that it will not; but if it is bent over to an angle of 45° from the perpendicular, or a little more, and kept so, then it will make a good and enduring fence.

Signification of the Word *Pippin*.

BY ROBERT MANNING, SALEM, MASS.

EDITOR WESTERN HORTICULTURIST: I notice in the *Pomologist* for June, some speculations and inquiries from our friend Dr. Howsley in regard to the origin of the names of certain apples. Very likely this subject would be deemed of little importance by those who are fond of styling themselves "practical men;" but I confess that it is a very interesting one to me, and I have made the following extract from an article by Dr. Robert Hogg, the eminent English pomologist, in the *London Gardener's Chronicle* for 1849, p. 180, as it appears to me to account satisfactorily for the origin of the names of *Pippin* and *Pearmain*, and will, I think, be of interest to Dr. Howsley, and perhaps others:

"*Pearmains*.—These are among our oldest English apples, and of which I believe the Winter *Pearmain* is the type. In this, I suspect, I differ from the Horticultural Society's Catalogue of Fruits, where the 'Old *Pearmain*' is made synonymous with the Herefordshire, or Royal *Pearmain*; but still, I am of opinion that the Winter *Pearmain* is the original. It is mentioned by Gerard in his 'Herbal,' in the 'Husbandman's Fruitful Orchard,' and by Ralph Austen, whilst I find no notice of the Royal *Pearmain*, till the time of Rea (1665), of which he says: 'It is much bigger and better tasted than the common kind.'

"It seems to have been long a matter of doubt as to the origin and signification of this word *Pearmain*. My attention was first attracted to its derivation by observing that Gerard writes it *Pearmaine*, and both in 'the 'Husbandman's Fruitful Orchard,' and Cole's 'Adam in Eden,' it is written *Peare-maine*. The last syllable of the word being the same as I have observed *Charlemagne*, written *Charlemaine* in works of these periods, suggested the idea that *Pearmain* was similar; and as *Charlemagne* is *Carolus Magnus* gallicised, so also *Pyrus Magnus* gallicised gave *Poire magne* (the large Pear), which, slightly transformed, is *Peare-maine* or *Pearmain*. The name of the *Pearmain* is, therefore, in allusion to the shape of those apples so called, being similar to that of a pear.

"*Pippins*.—This is derived from the French word *Pepin*, signifying a kernel, or the seed of apples, pears, and quinces. I am not prepared to say what variety is the type of this class, if indeed there is any one more than another, for I find the term applied by the early authors, not only to the seed, but to seedling apples generally. Thus we find Leonard Mascall, in 1572, instructing 'Howe to dung your wylde trees come of Pepynes,' and when so ever ye do replante or change your *Pepin* trees from place to place, in so removing often the storks, the fruite thereof shall also change, but the fruite which doth come of grafting doth alwayes kepe the forme and nature of the tree whereof he is taken; for as I have sayde, as often as the *Pepin* trees be removed to a better ground the fruite thereof be so much amended."

Dr. Hogg also discusses the origin of the words "Juneating" and "Queening."

I may add that his view of the etymology of *Pippin* is confirmed by the fact "Pepin d'Or" is a French synonym of the English Golden *Pippin*. We have also *Pipin Cels*, *Pepin Flagelle*, *Pepin á Porte*, etc., all names of apples, and in German the kindred term "Pippeling." I have myself heard of pear seedlings spoken of as "a fine lot of pippins."

Fruit in Minnesota.

FRIEND MILLER: Being an old friend and reader of the old *Wisconsin Farmer* of near twenty years ago, when you was editor, I am pleased to hear that you still live, and am glad that I am able to answer a few of the questions often asked about fruit growing in Minnesota:

First. We *can* raise good fruit, because I, with many others, have done it. Sixteen years ago I settled on this farm. Two years after I planted a small orchard, about one-half acre. About four years ago the last one died, except three Siberian Crabs; they still live, and bear abundantly. I do not know where they were raised, nor the varieties—I bought of a peddler. Since then I have kept planting with varied success, till now I have one and one-half acres with one hundred and fifty trees of all ages, as I keep filling in as they die. The varieties are Jersey Sweet, planted twelve years ago, raised at Waukegan, Ill., three years old, very healthy, bear abundantly; Perry Russet, from same place, very healthy, shy bearer (no rot or scab in my orchard); Sops of Wine, healthy, bears well, been planted ten years, three years old when planted; Talman Sweet, planted same time, same age, one-half died, rest doing well, and bear well; Golden Russet, planted with the other, same age, twig blight more or less every year, bearing moderately this year; Snow or Fameuse, planted same, and done well, bearing full this year.

The foregoing all came from Rochester, N. Y., except those from Waukegan. I have a few of the following varieties planted all along since then, some of which are now bearing well: St. Lawrence, shy bearer, done well, twig blight a little this year; Oily Pippin, bears well, no blight; Yellow Bellflower, grows well, shy bearer; a few Red Astrachan, planted five years, very healthy, beginning to bear; Duchesse Oldenburgh, planted same time, borne well two years. These two I brought from Wisconsin, when out on a visit six years this fall; they are doing better than some I got from Rochester, N. Y. I have a few other varieties without name that are doing well.

WM. ECKLES, *Eyota, Minn.*

REMARKS.—Thanks to friend Eckles for old-time recollections. We are at all times gratified to hear from any one of our numerous patrons of days long ago, and especially so, in connection with notes upon horticultural topics of so much practical value to the horticultural student.

Success in growing the apple, pear, plum, and other fruits in Minnesota, other than crabs and mildlings, is no longer an open question. Enough has already been done to fully demonstrate the fact, that the only bar to satisfactory results there, as elsewhere, is, *what to plant*. And the solution of this question is to be found in just such practical observations as here noted down by friend E. Let us have more of the same sort.

Notes on Apples—Dirt.

BY WM. P. LIPPINCOTT, VERNON, IOWA.

Yellow Bellflower.

I HAVE seen this splendid apple in its native State, and in Iowa. In Jersey it grows to perfection in any part of the south half of the State, and takes the precedence of all other apples in the Philadelphia market—it being an especial favorite with the aristocracy. Yet, notwithstanding the certainty and good qualities of this apple in its native home, I have seen finer apples of the kind here in Iowa than I ever saw there. There are localities in Iowa, in the edges of white oak timber land, where this fine fruit will grow to its utmost perfection. On prairie land it is worthless.

“Pippin.”

In your June number is an article by the corresponding editor on this senseless word. Many is the time I have asked for the meaning of this word, and also looked in the dictionary for it, but have never found it. I have presented apples for a name, and have been told that they were pippins, “Well, what is a pippin? What distinguishes it from other apples?” And here would be an end of the information. Such a meaningless word ought to be expunged from the lists.

The Rambo Apple,

Of course you are acquainted with the Rambo; well, do you know of any better apple at this season of the year? Are there any pears or peaches more delicious to the palate than a Rambo apple? The tree is a poor thing root-grafted, but top-grafted on a hardy stock, they are a hardy tree, most anywhere between latitude 39° and 42°, and a good thrifty grower.

Dirt, What is Dirt?

Is not the soil dirt? Is not manure dirt? Do we not live and move and have our being from these dirt? But these dirt are not repugnant to our senses of cleanliness, only when they are found out of place. When the valuable materials, out of which we live, are on our floors, carpets, beds, clothing, and victuals, they are then offensive dirt, and to be got rid of. What a heavenly smell there is in cleanliness, the perfume of the rose does not equal it; can we suppose there is any smell of cleanliness arising from the miserable wretches who prepare figs for our markets, as described in the June number of the *Pomologist*, page 143.

A long life is not necessary for each one of us to eat our “peck of dirt.” The elite of our cities are no exception to the rule, they all eat figs and sausages.

How to Raise Cuttings Successfully.

HAVING heretofore given an article upon this subject in the *Western Gardener*, page 72, our intention now is to make a few additional remarks :

If the ground is well and deeply worked in the fall, so as to be fully exposed to the action of the frost during winter, and, again, thoroughly worked in the spring so soon as the frost leaves, it will then be in fine order to receive cuttings, with a fair prospect of good success, if the cuttings are in proper condition.

Cuttings should be taken off in the fall, so soon as the leaves indicate, by their color, that the wood is sufficiently ripe to grow healthy in the spring.

The principal reason why cuttings, taken off and planted in the spring, fail to such an extent as to be discouraging, notwithstanding the ground may be in the very best condition to receive them, is that the warmth of the atmosphere opens the buds and expands the leaves, so as to evaporate all the sap in the cutting, before the bottom of the cutting has time to callous for the formation of roots. Hence nine cases out of ten, or thereabouts, will be failures. But if, on the contrary, the cuttings are taken off in the fall, and set in a trench, butts down, and the trench filled in to near the top of the cuttings, and then covered over with rubbish to sufficient depth to protect the tops from the drying influence of the winds, they will come out in the spring with the butts finely calloused ready for rooting at once, provided the ground where they are to be set is in the condition before named. By this method nine out of ten will live, and grow successfully.



Apples Received for Name.

From Thos. Scott, south of Ames, Iowa, a russet—says “tree set ten years ago; first crop this season.” This apple is the Poughkeepsie Russet; thus far not satisfactory in this State.

From Kinley Dobins, Cambridge, Iowa; specimen received is the Vandevere Pin.

From S. Ruber, east of Cambridge, White Winter Pearmain; very fine, no appearance of scab.

From M. D. Illingworth, south of Cambridge, Domine & Haskall Sweet.

From M. L. Wert, Otranto, Iowa, we have fine specimens of the Haas; shall illustrate and describe in a future number. We find the Haas a better apple than supposed.

We also have in hand collections of several new sorts for examination, from the following parties, and upon which we will report in January number: O. F. Brand, Fairabault, Min.; D. B. Clark, Council Bluffs; and L. A. Williams, Glenwood, Iowa.

Transactions Illinois State Horticultural Society.

We acknowledge, with thanks, the receipt of a copy of the Transactions of the Illinois State Horticultural Society, for 1871. It is a nicely gotten up volume of 348 pages, to which is appended the Second Annual Report of Dr. William Le Baron, State Entomologist. The work also contains the proceedings of the Fifth Annual Meeting of the Northern Illinois Horticultural Society, with brief mention of other Local Horticultural Societies in the State, forming a large volume of great interest and value to western fruit growers. The horticulturists of Illinois may well be proud of this, the sixteenth annual report of their State Society.



Editorial Notes.

Go for Congress.

The recent Postal Law is, in one respect, not only very inconvenient, but very absurd, and actually detrimental to the rural interests of the nation. Hitherto packages of bulbs, seeds, scions, and plants have been sent at a uniform rate of two cents per four ounces to any part of the country, the limited weight of three pounds being very convenient, and accommodating hundreds of florists, seedsmen, and others who have gathered new and rare plants, and forwarded them to distant parts of the country. Now suddenly, Congress, in a mistaken mode of liberality, and in a very crooked manner, while apparently offering seeds at half previous rates, or one cent for two ounces, limits the package to twelve ounces, while the Postmaster General, indisposed to construe the law in its most liberal and proper sense, even refuses to allow *seeds* to pass through except at rates of one cent per ounce. The rulings of the Post-office Department are arbitrary and tyrannical—instead of classing agricultural seeds as such, it places them under the department “samples of merchandise,” and refuses to pass them except at rates of two cents for two ounces, just double the rates intended by law. We have never witnessed a ruling so perverse and blind, nor one so calculated to injure the agricultural interests of the country. Thousands of citizens in the country have been in the habit of obtaining their supplies of flower and vegetable seeds through the mails from seedsmen well located in the large cities. This business has, under the formerly liberal rates of the United States Postage, developed into something of real magnitude, and has been the means of widely spreading many new and valuable roots, seeds, plants, and bulbs.

Suddenly, and without a word, Congress enacts a law which strikes this business on the head, dooms it to failure, for no dealer can stand the immense amount of handling required to put up the seeds in so many small packages, without an extra charge, which must be borne by the customer in enhanced prices. A package of seeds formerly weighing three pounds, now must be divided into three packages, and cost an immense amount of work and extra material to put up. *The law, as it should be*, ought to permit packages of same weight as before, and define more clearly the postage rates of one-half cent per ounce, or one cent per two ounces. Every one who has hitherto sent plants of small fruits, grafts, etc., is now almost totally cut off. And one can see that with the present excessive charge by the Express companies upon small parcels, the post-office rulings are doing an immense amount of injury to the farmers of the country.

Bulky packages of newspapers are now sent through the mails without any limit to weight, and we cannot understand the shortsighted economy which forbids packages of seeds of moderate size to pass also, when they pay much higher rate of postage.

We say to all horticulturists, *go for Congress this winter*; write and make petitions to your Congressmen to the following effect:

1st. To repeal the present law limiting packages to twelve ounces, and restore the old limit of three pounds.

2d. To define more distinctly the exact rates of one cent per two ounces on seeds, so that it cannot be controverted or set aside by any arbitrary ruling of the Post-office Department.

Our Congressmen are elected for our interest, not our hindrance. *Go for them.*

Mowing off Strawberry Leaves.

The Germantown *Telegraph* takes up this topic as follows:

"The horticultural journals are still discussing the propriety of mowing off the strawberry vines after they are done bearing. The advocates of this method are about equal to the opponents. Now, we don't profess to know anything more about this than what our own experience supplies. This is decidedly in favor of mowing off. Indeed, we think that our crops have been doubly as productive as when the vines were allowed to remain. We never failed in a full crop when we did this, and for several years when it was not done we had not more than half a crop."

New Fruits.

During our absence in the West, specimens of several new peaches were forwarded to us by James H. Ricketts, of Newburgh, New York. One of them named the *Princess of Wales*, raised by Thomas Rivers, of England, is a great bearer, ripens with the old Rare Ripe.

The other is *Ricketts' Seedling*, one that he raised from the Pit. It is a good bearer, and is always very large. At the last Newburgh Fair, nine specimens brought \$6.30. They are very uniform in size. We would like to hear more about peaches such as this, that can be sold for 75 cents each.

Salt for Pear Trees.

It will be remembered that last year we introduced the topic of salting around pear trees to prevent the blight. We learn, on a recent visit to Central New York, that the practice is becoming general, and regular applications yearly of 400 to 600 pounds per acre, are now the custom. We notice also a favorable experience from a correspondent of *The Small Fruit Recorder*:

"Last spring I put a small shovelful of the refuse material from the salt works—which is composed, I believe, of salt, lime, and ash—around a four year old pear tree. It has made a very thrifty growth, and the leaves are all free from blight or spot, and have a very glossy, healthy look; while others of the same lot, manured with barnyard manure, have grown but little, and the foliage is spotted and dull. Now, if no ill-effect may be attributed to the barnyard manure, it would seem that the difference in these trees was owing to the salt."

Curiosities of Californian Arboriculture.

We have been so much accustomed to believe that everything would grow, and did grow in California, that it was with some surprise that we recently met with the following paragraph, apparently from good authority, though we cannot give it credit to exact source:

"California has no Magnolia nor tulip trees, nor star-anise tree; no so-called Papaw (*Asimina*); no barberry of the single-leaved sort; no *Podophyllum* or other of the peculiar associated genera; no *Nelumbo* nor white water-lily; no prickly ash nor sumach; no loblolly-bay nor *Stuartia*; no basswood nor linden trees; neither locust, honey-locust, coffee trees (*Gymnocladus*), nor yellow-wood (*cladastris*); nothing answering to *Hydrangea* or witch-hazel, to gum-trees (*Nyssa* and *Liquidambar*), *Viburnum* or *Diervilla*; it has few asters and golden-rods; no lobelias; no huckleberries and hardly any blueberries; no *Epigaea*, charm of our earliest Eastern spring, tempering an icy April wind with a delicious wild fragrance; no *Kalmia* nor *Clethra*, nor holly nor persimmon; no *Catalpa* tree nor trumpet-creeper (*Tecoma*); nothing answering to sassafras, nor to benzoin-tree, nor to hickory; neither mulberry nor elm; no beech, true chestnut, hornbeam, nor ironwood, nor a proper birch tree;

and the enumeration might be continued very much further by naming herbaceous plants and others familiar only to botanists."

Newburgh Bay Horticultural Society.

The usual annual exhibition of this Society occurred at Newburgh, N. Y., September 25th to 27th. Among many interesting displays of fruit, flowers, etc., was a collection of 126 varieties of apples from Alfred Bridgeman, also 79 varieties of pears from same gentlemen. Henry Cornell, exhibiting 30 varieties of pears, and taking the first prize for best general collections of fruits. The display of fruits, flowers, and vegetables were fine. Peaches and plums were abundant, and apples as well as pears were superior to anything ever exhibited before—and the collections of grapes from J. H. Ricketts were beautiful and generally admired.

Raising Fruit in the Shade.

A writer in the *Fruit Recorder*, evidently a clergyman, contributes the results of experiments in raising fruits in the shade :

A parishioner objected to planting raspberries because he had no place for them except the north side of his barn.

In 1863, I planted two rows of raspberries about sixty feet long, and three feet apart, in the rows directly west from a two story building, and under the north side of a tight board fence, so that they got no sun till afternoon, and not more than two or three hours any day; and from that plantation we have picked two bushels in a season of Red Antwerps and Brinkle's Orange, that were the admiration of our neighbors.

The finest Black Caps I ever raised were directly under the north side of a high barn.

I raised a full crop of strawberries—Russell's—in the same location, and thus lengthened out the strawberry season, as they ripened a week later than those that had the full benefit of the sun.

Asparagus Culture.

Mr. Sargent of Dutchess county, N. Y., writes to the *Gardeners' Monthly* that the earliest, best, and latest asparagus in his neighborhood is in the garden of a slovenly cultivator, who cuts all his spears or seed stems immediately after the asparagus season is over, repeating this process once or twice during the summer, thus never having any seeds, and this has been his habit for five or ten years. Now, if such a course is correct, all other cultivators of asparagus are entirely wrong. The editor says in comment :

This suggestive statement may be of great value to cultivators, if they will give it careful study in connection with known laws of plant life.

1. There is no doubt, for this has been proved over and over again, that if we cut away every spear of asparagus as soon as it appears above the ground, never allowing one to appear above the ground, the plant would be weakened; and if the same course be pursued the second year it would be entirely destroyed. This plan is successfully pursued in the destruction of Canada thistle, horse nettle, and other terrible pests.

2. It is also well known that after the time of flowering there is a terrible strain on the vital functions of the whole plant, root and branch. After flowering, the mignonette produces seeds and dies; but if every flower be picked off as it appears, the mignonette becomes a perennial, and there appears no limit to its duration. The strength of the root is, therefore, assisted by non-flowering or fruiting. This accords with Mr. Sargent's observations on the asparagus.

But we must not forget our first point. Remembering the first and second position together, it would seem to be a good thing to let asparagus grow up to the time of flowering, and then cut the stems entirely away.—*N. Y. Tribune.*

Floral Notes.

Soil for Floriculture.

Most flowers, if not all, succeed best in sandy loam, made rich by the addition of well-rotted manure, which should be thoroughly mixed with the soil. Such a soil, thus prepared, will not become hard or baked, but will become loose and porous. It will not only afford the small and tender plants a chance for existence, but it will also enable them to perfect themselves with vigor and beauty.

If your garden is composed of a stiff, heavy soil, a good dressing of sand and manure will assist it wonderfully in the way of plant development; and some of the most delicate plants that would not succeed at all in such soil, in its unimproved condition, will, after such preparation, flourish in the most satisfactory manner.

A heavy soil is greatly benefited by being roughly spaded up in the fall, and remaining in that condition through the winter. In all cases, before sowing the seed, it is of the utmost importance that the soil should be thoroughly pulverized. This important particular should never be overlooked.—*Boston Journal of Chemistry.*

How to Keep Flowers Blooming a Long Time.

All lovers of flowers must remember that one blossom allowed to mature or "go to seed" injures the plant more than a dozen new buds. Cut your flowers, then, all of them, before they begin to fade. Adorn your rooms with them, put them on your tables; send bouquets to your friends who have no flowers, or exchange favors with those who have. You will surely find that the more you will cut off, the more you will have. In this, as in other things, the wise man spoke truly when he said, "There is that scattereth and yet increaseth, and there is that withholdeth more than is need, and it tendeth to poverty." All roses, after they have ceased blooming should be cut back, that the strength of the root may go to forming new roots for next year, and on these bushes not a seed should be allowed to mature.

Rose Cuttings.

European horticulturists have lately adopted a mode of making rose cuttings root with more certainty, by bending the shoots and inserting both ends into the ground, leaving a single bud uncovered at the middle and on the surface of the ground. The cuttings are about ten inches long, and are bent over a stick laid flat on the ground, holes being dug on each side of the stick for the reception of the ends of the shoot. The roots form only at the lower end of the shoot, but the other end being buried, prevents evaporation and drying up. A correspondent of the *London Garden* states that he has tried this, along with the old mode, and that while the weaker cuttings of the latter have shown symptoms of drying and failure, all the former have grown vigorously.

A Floral Ornament for the Drawing-Room.

Last August a lady friend of mine gathered a handful of the world-renowned flowers of Forget-me-not, *Myosotis palustris*, and to preserve them as long a period as possible, they were put in a large soup-plate filled with rain-water. The flowers were placed near the window, so as to enjoy the advantages resulting from an abundance of light and air, and the water was replenished when needful. In a surprisingly short space of time—three weeks, I believe—white thread-like roots were emitted from the portion of the flower-stalks in the water, and they ultimately formed a thick net-work over the plate. The flowers remained quite fresh, excepting a few of the most advanced when gathered, and, as soon as the roots began to run in the water, the buds began to expand, to take the place of those which faded, and up to the middle of November the bouquet—if it may be so called—was a dense mass of flowers, and a more beautiful or chaste ornament for the indoor apartment cannot be imagined.—*Thomas W. Trussler, in Gardeners' Magazine.*

Replanting Bulbs.

Those who are now about to replant bulbs grown in their own grounds should remember that a heavy clay is not suitable, nor is a light sand. The latter, however, is better than the former, but in all cases the ground should be dug eighteen inches deep, and four to six inches of well rotted cow manure should be placed and intermingled with the base of the stirred soil. If the soil is a heavy clay, it must be removed, at least in part, and then sandy loam or leaf mould be mingled with the balance. If very sandy, then clay loam should take a half position. After planting, a dress of coarse fresh cow manure three inches deep should be spread over the bed, and as soon as cold weather sets in, cover again with leaves or loose straw to a depth of four inches. Early in spring take off the leaves or straw, and as soon as the bulbs appear in their young growth, rake carefully the coarse particles of manure from the top.—*Addi, in Cleveland Herald.*

The Western Triumph

Is the name of a Blackberry which has been found quite hardy and which grows fruit large and sweet enough to dispense with sugar. At least so says the *Rural New Yorker*.

The Dr. Warder Strawberry

Is a variety which is described as vigorous in habit and producing large fruit of a bright red color. It is later than the Wilson, and promises to be a valuable sort for market as it is regarded as a steady bearer.

The Austrian Pine.

Isaac Hicks, of Long Island, believes that there is no evergreen equal to the Austrian pine to withstand the force of high winds and the sea air. Why would not this be a good pine for growth along the margin of the great lakes where protection was needed for vineyards or orchards?



Editorial Notices.

The Horticulturist for 1873.

Renewals are now in order. We need not give any prospectus or promises; all have seen what we *can* do, during this year, and for the future we mean to *excel* all we have done. Mr. Miller remains with us, identified with the conduct of his department permanently, and our illustrated frontispieces will show, the coming few months, some rare gems of scenery. Get up your clubs. See terms second page of cover. They are as cheap as any agricultural paper. Western friends are particularly requested to make vigorous efforts to extend our subscription list. Renew promptly. Send in some contributions too; some items of your experience.

Back Numbers Wanted.

For copies of February HORTICULTURIST, 1872, to complete our sets, 25 cents each will be paid by the publisher.

Irresponsible Club Agencies.

During the past three months there have sprung up a dozen or so new club agencies, in various parts of the country. Some of them look to us very suspicious; some, we know, are unable to furnish papers at the price they name; and others are, on their face, such downright frauds, got up merely to get the money of subscribers and then decamp, that we believe we are doing the public good service by warning all against them. We have received, in the past three years, letters and circulars from about twenty-five of these parties, and we have never heard of them again. Only two club agencies in the United States we believe to be reliable (Fairchild's,

and Briggs'); but we recommend every one to deal, as far as possible, in their clubbing system, with responsible newspaper publishers, then the subscriber can depend upon reliability and satisfaction, and know he is dealing with parties perfectly responsible.

A New Horticultural Journal.

George T. Fish, of Rochester, N. Y., proposes to publish early in December a horticultural *Electric*, to be issued bi-monthly, and devoted to the interest of nurserymen. It will be also a medium of prices for his nursery agency.

Pretty Catalogues.

It is hard to say which is the prettiest of the fall catalogues, that issued by Briggs & Bro., of Rochester, N. Y., or by Schlegel, Everett & Co., Boston, Mass. The former has the merit of pretty tinted paper of rose color. The latter has the newest, neatest, and most elegant illustrations of parlor floral decorations. Both firms have always been identified with a heavy wholesale trade, and are now beginning active operations upon mail customers.

Foreign Catalogues.

We have received the *Illustrated Catalogues* of Dick Radclyffe & Son, 129 High Holborne, London, England. One is devoted to Dutch Bulbs, Dried Flowers, Fern Cares, Aquaria, Window Garden Requisites, and Horticultural decorations—80 pages. The second is a Catalogue of Conservatories, Greenhouses, and Conservatory fittings and decorations.

Laxton's Peas.

Mr. Laxton appears in our pages with his usual announcement of his new varieties of peas. They are of acknowledged excellence in England, and from all the testimony we have seen of them, we should judge equally well adapted to culture in America. We understand our tradesmen sold large quantities of them last spring.

Catalogues Received.

John Saul, Washington, D. C.—No. 7—Descriptive Catalogue of Dutch Bulbs. No. 3—Wholesale Catalogue of Trees and Greenhouse Plants.

Joseph W. Vestal, Cambridge City, Ind.—Wholesale Trade List; Winter Flowering Plants.

Wood & Hall, Geneva, N. Y.—Catalogue of Flowering Bulbs, Fall, 1872; General Trade List of Nursery Stock.

Charles Wright, Providence, R. I.—Descriptive Catalogue, New and Rare Plants.

Geo. Such, South Amboy, N. J.—Catalogue, Stove and Greenhouse plants.

Richardson & Vail.—Descriptive Catalogue, Fruit and Ornamental Trees.

Dick Radclyffe & Co., London, England—Catalogue of Conservatories and Greenhouses; Autumn Catalogue, Dutch Bulbs.

A. Hance & Son, Red Bank, N. J.—Catalogue, Fruit and Ornamental Trees, Vines and Shrubs.

Briggs Bros., Rochester, N. Y.—Fall Catalogue, Hardy Bulbous, Flowering Plants.

Schlegel, Everett & Co., Boston, Mass.—Autumn Catalogue, Dutch Bulbs.

H. M. Engle & Son, Marietta, Pa.—Wholesale Price List, Riverside Nurseries.

To Investors.

We are selling at par and interest, and recommend to careful investors, the First Mortgage Seven-Thirty Gold Bonds of the Northern Pacific Railroad Company. Special attention is called to the ample Land Security on which these bonds rest, in addition to the usual guaranty of a first mortgage on the Road, its Equipments and earnings. The lands of the Company thus far sold have realized \$5.66 per acre. The Grant averages about 23,000 acres per mile of road. JAY COOKE & Co.

